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OF THE
UNITED STATES NATIONAL MUSEUM.
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THE BIRDS
OF
NORTH AND MIDDLE AMERICA.

BY
ROBERT RIDGWAY,
CURATOR, DIVISION OF BIRDS.

PART VIII.

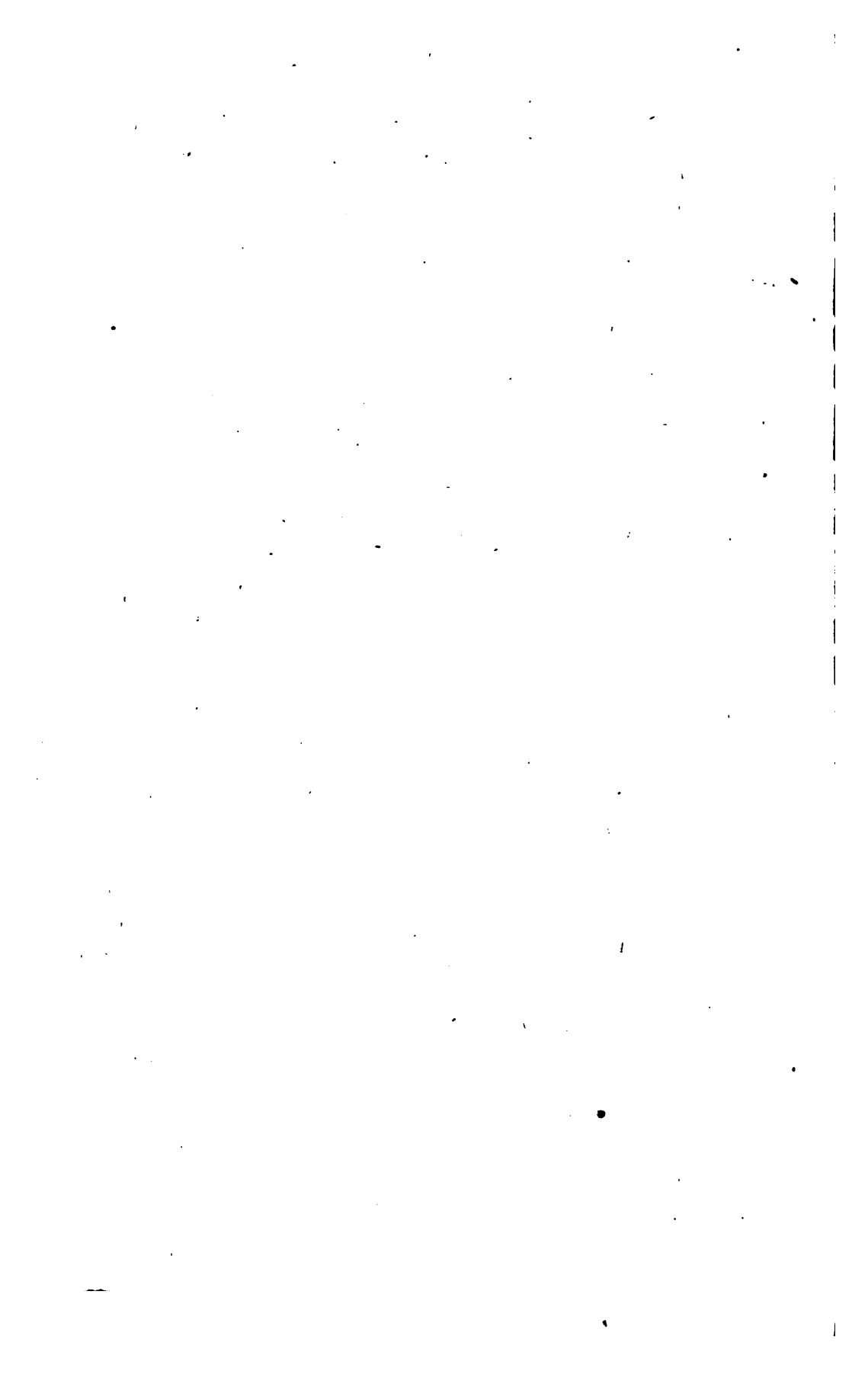


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THE BIRDS

OF

NORTH AND MIDDLE AMERICA:

A DESCRIPTIVE CATALOGUE

OF THE

HIGHER GROUPS, GENERA, SPECIES, AND SUBSPECIES OF BIRDS
KNOWN TO OCCUR IN NORTH AMERICA, FROM THE
ARCTIC LANDS TO THE ISTHMUS OF PANAMA
THE WEST INDIES AND OTHER ISLANDS
OF THE CARIBBEAN SEA, AND THE
GALAPAGOS ARCHIPELAGO

BY

ROBERT RIDGWAY,
CURATOR, DIVISION OF BIRDS.

PART VIII.

- | | |
|--|---|
| Family Jacanidae—The Jacanas. | Family Phalaropodidae—The Phalaropes. |
| Family Edicnemidae—The Thick-knees. | Family Recurvirostridae—The Avocets and Stilts. |
| Family Haematopodidae—The Oyster-catchers. | Family Rynchopidae—The Skimmers. |
| Family Arenariidae—The Turnstones. | Family Sternidae—The Terns. |
| Family Aphriza—The Surf Birds. | Family Laridae—The Gulls. |
| Family Charadriidae—The Plovers. | Family Stercorariidae—The Skuas. |
| Family Scolopacidae—The Snipes. | Family Alcidae—The Auks. |
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PREFACE.

The Families of birds included in the present and preceding volumes of this work are as follows:

Part I, issued October 24, 1901, included the Fringillidæ (Finches) alone.

Part II, issued October 16, 1902, included the Tanagridæ (Tanagers), Icteridæ (Troupials), Cœrebidæ (Honey Creepers), and Mniotiltidæ (Wood Warblers).

Part III, issued December 31, 1904, included the Motacillidæ (Wagtails and Pipits), Hirundinidæ (Swallows), Ampelidæ (Waxwings), Ptilogonatidæ (Silky Flycatchers), Dulidæ (Palm Chats), Vireonidæ (Vireos), Laniidæ (Shrikes), Corvidæ (Crows and Jays), Paridæ (Titmice), Sittidæ (Nuthatches), Cœrthiidæ (Creepers), Troglodytidæ (Wrens), Cinclidæ (Dippers), Chamæidæ (Wren-Tits), and Sylviidæ (Warblers).

Part IV, issued July 1, 1907, contained the remaining groups of Oscines, namely, the Turdidæ (Thrushes), Zeledoniidæ (Wren-Thrushes), Mimidæ (Mockingbirds), Sturnidæ (Starlings), Ploceidæ (Weaverbirds), and Alaudidæ (Larks), together with the Haploophone or Oligomyodian Mesomyodi, comprising Oxyruncidæ (Sharpbills), Tyrannidæ (Tyrant Flycatchers), Pipridæ (Manakins), and Cotingidæ (Chatterers).

Part V, issued November 29, 1911, includes the Tracheophone Mesomyodi, represented by the Pteroptochidæ (Tapaculos), Formicariidæ (Antbirds), Furnariidæ (Ovenbirds), and Dendrocolaptidæ (Woodhewers); the Macrochires, containing the Trochilidæ (Humming Birds) and Micropodidæ (Swifts), and the Heterodactylæ, represented only by the Trogonidæ (Trogons).

Part VI, issued April 8, 1914, contains the Picariæ, comprising the Families Picidæ (Woodpeckers), Capitonidæ (Barbets), Ramphastidæ (Toucans), Bucconidæ (Puff Birds), and Galbulidæ (Jacamars); the Anisodactylæ, with Families Alcedinidæ (Kingfishers), Todidæ (Todies), and Momotidæ (Motmots); the Nycticoraciæ, with Families Caprimulgidæ (Goatsuckers) and Nyctibiidæ (Potoos), and the Striges, consisting of families Tytonidæ (Barn Owls) and Bubonidæ (Eared Owls).

Part VII, issued May 5, 1916, contains the Coccoygiformes (Cuckoo-like Birds), Psittaciformes (Parrots), and Columbiformes (Pigeons).

Part VIII (the present volume) contains the Charadriiformes (Plover-like Birds), with Families Jacanidæ (Jacanas), Ædicnemidæ (Thick-knees), Hæmatopodidæ (Oyster-catchers), Arenariidæ (Turnstones), Aphrizidæ (Surf Birds), Charadriidæ (Plovers), Scolopacidæ (Snipes, Sandpipers, etc.), Phalaropodidæ (Phalaropes), Recurvirostridæ (Avocets and Stilts), Rynchopidæ (Skimmers), Sternidæ (Terns), Laridæ (Gulls), Stercorariidæ (Skuas and Jaegers), and Alcidæ (Auks).

Part IX, now in course of preparation, will contain the Gruiformes with Families Heliornithidæ (Sun Grebes), Eurypygidæ (Sun Bitterns), Gruidæ (Cranes), Aramidæ (Limpkins), and Rallidæ (Rails, Gallinules, and Coots); Galliformes, with Families Gallidæ (Pheasants), Perdricidæ (Partridges and Quails), Numididæ (Guinea fowls), Meleagridæ (Turkeys), Odontophoridæ (American Partridges), Tetraonidæ (Grouse), and Cracidæ (Curassows and Guans); Falconiiformes, with Families Polyboridæ (Caracaras), Herpetotheridæ (Laughing Falcons), Micrasturidæ (Hawk-Falcons), Falconidæ (Falcons), Buteonidæ (Hawks and Eagles), and Cathartidæ (American Vultures).

In the eight volumes thus far published have been treated in detail (that is, with full descriptions and synonymies), besides the Families above mentioned and higher groups to which they belong, 651 genera and 2,507 species and subspecies, besides 213 extralimital genera and 602 extralimital species and subspecies whose principal characters are given in the Keys and their principal synonymy (full synonymy in case of the genera) given in footnotes.

Certain subspecies (mostly among the Limicolæ) recognized by other authors have not been admitted in the present work. This does not necessarily mean that they are not worthy of recognition; but that the material examined (usually wholly inadequate for determination of the question) did not warrant subdivision of the species.

Acknowledgments are due for the loan of specimens needed in the preparation of the present volume to the authorities of the Academy of Natural Sciences, Philadelphia; American Museum of Natural History, New York; Carnegie Museum, Pittsburgh; Field Museum of Natural History, Chicago; Museum of Comparative Zoology, Cambridge; and to Mr. William Brewster.¹

¹ Specimens borrowed for use in the preparation of this volume are as follows:

Academy of Natural Sciences, Philadelphia.....	37
American Museum of Natural History.....	192
Carnegie Museum.....	161
Field Museum of Natural History.....	64
Museum of Comparative Zoology.....	214
William Brewster.....	35
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The author is greatly indebted to Dr. Charles W. Richmond, Associate Curator of the Division of Birds, U. S. National Museum, for indispensable aid in the matter of nomenclatural questions—now so complicated and difficult a branch of zoological science that only specialists in that line of research are competent authorities—for assistance in correcting proofs, and help in various ways; and to Mr. J. H. Riley, Aid in the Division of Birds, for compilation of a considerable proportion of the synonymatic references, measurements of many specimens, and preparation of the Keys to the species of the genus *Blasipus* (pp. 652, 653) and immature stages of the species of *Larus* (pp. 583, 584).

Measurements of specimens for use in the preparation of the present volume were made by Mr. Riley and Miss Celestine B. Hodges, and the original drawings of the outline figures illustrating the generic characters (pls. I-XXXIV), except those previously published, were made by Mr. E. R. Kalmbach, of Washington.

It may be added that printing of the present volume has been greatly retarded by exigencies resulting from prosecution of the World War, now happily ended.

ROBERT RIDGWAY.

DECEMBER 3, 1918.

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THE BIRDS OF NORTH AND MIDDLE AMERICA.

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Part VIII.

Order CHARADRIIFORMES.

PLOVER-LIKE BIRDS.

- > *Charadriornithes* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566 (includes Otides=Gruiformes part).
- > *Aegialornithes* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566 (includes Otides).
- > *Charadriiformes* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566 (includes Otides).—SHARPE, Review Rec. At. Classif. Birds, 1891, 72; Handlist, i, 1899, xv, 144 (includes Otides).—GADOW, in Bronn's Thier-Reichs, Vög., ii, 1893, 194, 300; Classif. Vertebr., 1898, xv, 35 (excludes Otides; includes Pterocles and Columbiformes).—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2 (includes Columbiformes).—KNOWLTON, Birds of the World, 1909, 49, 350 (includes Pterocles and Columbiformes).
- < *Laro-Limicolae* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566 (excludes Jacani and Edicnemi).—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2 (excludes Alcæ).—KNOWLTON, Birds of the World, 1909, 49 (Limicolae+Lari).
- = *Laro-Limicolae* GADOW, in Bronn's Thier-Reichs, Vög., ii, 1893, 195.
- < *Charadrii* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566 (excludes Jacani and Edicnemi).
- > *Limicolæ* GARROD, Proc. Zool. Soc. Lond., 1874, 117 (includes Gruidæ.).
- < *Limicolæ* BEDDARD, Struct. and Classif. Birds, 1898, 336 (excludes Alcæ).
- < *Gaviæ* SEEBOHM, Classif. Birds, 1890, vii, xi, 37 (excludes Alcæ).
- = *Pluviales* STEJNEGER, Standard Nat. Hist., iv, 1885, 65, in text.

Limicoline, aquatic or (rarely) pratincoline schizognathous birds with dorsal vertebræ opisthocœlous, lachrymals firmly united with prefrontals, oil gland tufted, flexor tendons of Type I, syrinx tracheo-bronchial, and secondaries aquincubital.

Skull schizognathous (ægithognathous in Thinocoryces); nares usually schizorhinal (holorhinal in Edicnemi, Dromades, Chionides, and *Pluvianus*, pseudo-holorhinal in Thinocoryces); basipterygoid

processes usually present (absent in *Ædicnemi*, *Cursorii*, *Chionides*, and *Alcæ*); supraorbital grooves usually present (absent in some *Limicolæ*); lachrymals firmly united with prefrontals; occipital fontanelles usually present (absent in *Jacanicæ*, *Dromadidæ*, and in adults of *Lari*); coracoids with a subclavicular process; coraco-humeral groove distinct; furcula U-shaped, with a hypocleideum; spinæ sterni short, separate; cervical vertebræ, 15-16; dorsal vertebræ, 5-8; no ankylosed dorsal vertebræ; hæmapophyses of cervical and thoracic vertebræ opisthocœlous, only 1-2 vertebræ with two fairly closely approximated hæmapophyses for reception of the carotid arteries; hallux (if present) connected with the flexor longus hallucis, never with the flexor perforans digitorum; anterior toes completely cleft to completely webbed; hypotarsus complex (with canals in *Limicolæ*, with 2 grooves in *Lari*) or simple (*Alcæ*); flexors of Type I; thigh-muscle formula variable; biceps slip to patagium usually present (absent only in *Rynchopidæ*); caeca usually large (rudimentary in *Alcæ* and some *Limicolæ*); carotid arteries, 2; rhamphotheca usually simple (complex in *Chionididæ*, *Stercorariidæ*, and some *Alcæ*); crop absent (except in *Thinocorythes*); intestinal convolutions of Type I (peri-orthocœlous with mesogyrous tendency); syrinx tracheo-bronchial, with 1 pair of muscles; oil-gland tufted; cervical pterylosis with lateral apteria; dorsal pteryla well defined on neck, forked on upper back; aftershaft present; primaries, 11 (1 minute and concealed); secondaries, 11, aquincubital; rectrices, 10-28; downs on adults present; young ptilopædic, nidifugous (*Limicolæ*) or pseudo-nidifugous (*Lari* and *Alcæ*).

KEY TO THE SUBORDERS OF CHARADRIIFORMES.

- a. Hæmapophyses of dorsal vertebræ less developed; coracoid with a subclavicular process, the ectepicondylar process well-developed (except in some *Lari*); sternum relatively short and broad, the metasternum not rounded and not projecting beyond the postero-lateral processes; clavicle connected with both præcoracoid and acrocoracoid; pelvis not laterally compressed; first digit of manus present; thigh-muscle formula with Y, usually with B, the ambiens absent only in *Rynchopidæ*; biceps slip not distinctive; tensores patagii not distinctive; intestinal convolutions of fewer loops (less than 6); dorsal pteryla interrupted between anterior and posterior parts; caeca present, usually large (except in *Jacanicæ*?); wings long, the flight buoyant and prolonged; legs inserted near middle of body. (*Laro-Limicolæ*.)
- b. Hypotarsus complex (with canals); coracoids separated (except in *Ædicnemidæ* and *Jacanicæ*); supraorbital glands absent or small; basiptyergoid processes usually present (absent in *Dromadidæ*, *Ædicnemidæ*, *Glareolidæ*, *Chionididæ* and *Thinocorythidæ*); occipital foramina present (except in *Dromadidæ*, *Ædicnemidæ*, *Glareolidæ*, *Thinocorythidæ*, *Jacanicæ*, and *Chionididæ*); furcula without hypocleideum; adult downs on pterylæ only; bill and tarsus relatively long and slender; anterior toes usually cleft to base or only slightly webbed (fully webbed only in *Recurvirostridæ*, part); young typically nidifugous; habits limicoline or pratincoline, or if aquatic (*Phalaropodidæ*) toes not webbed but scalloped or lobed *Limicolæ* (p. 3).

- b. Hypotarsus simple (with grooves but without canals); coracoids in contact (except in *Stercorariidæ*); supraorbital glands present, large; basipterygoid processes absent or vestigial; occipital foramina absent; furcula with a hypocleideum; adult downs on both pteryæ and apteria; bill and tarsus relatively short and stout; anterior toes usually fully webbed (never cleft); young pseudo-nidifugous (nearly nidicolous); habits aquatic . . . *Lari* (p. 447).
- a. Hæmapophyses of dorsal vertebræ conspicuously developed; coracoids without a subclavicular process, the ectepicondylar process minute or absent; sternum relatively long and narrow, the metasternum rounded and projecting beyond the postero-lateral processes; clavicle connected with acrocoracoid only; pelvis laterally compressed; first digit of manus absent; thigh-muscle formula without Y, usually without B, the ambiens always absent; biceps slip and tensores patagii peculiar (distinctive); intestinal convolutions of more numerous loops (not less than 6); dorsal pteryla not interrupted; caeca absent or rudimentary; wings short, the flight rapid but not bouyant; legs inserted far backward *Alcæ* (p. 700).

Suborder LIMICOLÆ.

SHORE-BIRDS.

- = *Limicolæ* BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 688.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, viii, 142.—SCLATER, Ibis, 1880, 408.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 107.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 145; 3rd ed., 1910, 107.—RIDGWAY, Man. N. Am. Birds, 1887, 143; 2d ed., 1896, 143.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, ix, 1.—GADOW, Classif. Vertebr., 1898, 35.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 338.—OBERHOLSER, Outl. Classif. N. Am., Birds, 1905, 2.—KNOWLTON, Birds of the World, 1909, 49, 351.
- = *Charadriomorphæ* HUXLEY, Proc. Zool. Soc. Lond., 1867, 457.
- > *Limicolæ* BEDDARD, Struct. and Classif. Birds, 1898, 336 (includes *Lari*!).
- < *Charadrii* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566 (*Charadriidæ* + *Glareolidæ* + *Dromadidæ*; excludes *Jacani*, *Oedicnemi*, *Chionides*, and *Thinocorythæ*).
- > *Scolopacoideæ* STEJNEGER, Standard Nat. Hist., iv, 1885, 94, in text (includes *Otides*).

Long-winged, usually long-legged, limicoline or cursorial (rarely aquatic) *Charadriiformes* with hypotarsus complex; coracoids usually separated; supraorbital glands absent or small; basipterygoid processes usually present; occipital foramina usually present; furcula without hypocleideum; adult downs on pteryæ only; bill and legs usually relatively long and slender; anterior toes usually cleft to base or incompletely webbed, and young typically nidifugous.

The following characters are shared in common by the *Limicolæ* and *Lari*, as distinguished from the *Alcæ*: Hæmapophyses of dorsal vertebræ slightly or moderately developed; coracoid with a subclavicular process, the ectepicondylar process well-developed (except in some *Lari*); sternum relatively short and broad, the metasternum not rounded and not projecting beyond the postero-lateral processes; clavicle connected with both præcoracoid and acrocoracoid; pelvis not laterally compressed; first digit of manus present; thigh-muscle formula with Y, usually with B; biceps slip and tensores patagii not

distinctive; dorsal pteryla interrupted between anterior and posterior parts; caeca present, usually large; legs attached near middle of body; wings long, the flight buoyant and capable of being long sustained.

KEY TO THE SUPERFAMILIES OF LIMICOLÆ.

- a. Vomer pointed or bifid anteriorly; maxillo-palatines long and thin; crop absent.
 - b. Nares schizorhinal.
 - c. Basipterygoid processes present.
 - d. Supraorbital grooves and occipital foramina absent; coracoids overlapping; hallux, anterior toes, and claws enormously elongated; rectrices 10.
 - Jacani (p. 5).
 - dd. Supraorbital grooves and occipital foramina present; coracoids separated; hallux very small, often absent; anterior toes and claws of moderate length or relatively short; rectrices 12-28.....Charadrii (p. 24).
 - cc. Basipterygoid processes absent.....Dromades, (extralimital).^a
 - bb. Nares holorhinal or pseudo-holorhinal.
 - c. Supraorbital grooves absent; coracoids overlapping.....Ædicnemini (p. 17).
 - cc. Supraorbital grooves present; coracoids separated.....Glareolæ (extralimital).^b
- aa. Vomer broad and rounded anteriorly; maxillo-palatines short and inflated, tumid or spongy; crop present.
 - b. Nares pseudo-holorhinal; metasternum 2-notched; atlas perforated; rhamphotheca simple.....Attagides (extralimital).^c
 - bb. Nares schizorhinal; metasternum 4-notched; atlas notched; rhamphotheca complex.....Chionides (extralimital).^d

^a *Dromades* Sharpe, Review Rec. Att. Classif. Birds, 1891, 72. Includes only the curious monotypic genus *Dromas* Paykull, of eastern Africa (including Madagascar) to southern India, Ceylon, etc. The single species, *D. ardeola* Paykull, differs from all other Limicolæ in a considerable number of characters, among which are its peculiar nidification, the single immaculate white egg being deposited at the end of a long burrow.

^b < *Glareolæ* Sharpe, Review Rec. Att. Classif. Birds, 1891, 73 (includes Glareolidae only).

< *Cursorii* Sharpe, Review Rec. Att. Classif. Birds, 1891, 73 (includes Cursoriidae only).

> *Cursorii* Sharpe, Hand-list, i, 1899, xvi, 169 (includes Dromadidae=Dromades).

I am not at all sure that the Glareolæ and Cursorii should be combined in one group, but most certainly *Dromas* should be removed from close association with either.

^c > *Chionoides* Stejneger, Standard Nat. Hist., iv, 1885, 92, in text (includes Chionides).

> *Subgrallatores* Sundevall, Met. Nat. Av. Disp. Tent., 1872, 119, (includes Chionides).

= *Attagides* Sharpe, Review Rec. Att. Classif. Birds, 1891, 72; Hand-list, i, 1899, xv, 145.

^d = *Vaginati* Illiger, Prodrum Orn., 1811, 251.

= *Vaginales* Cuvier, Règne Anim., ed. 2, i, 1829, 541.

= *Coleoramphi* Vieillot, Analyse, 1816, 59.

= *Chionomorphæ* Coues and Kidder, Bull. U. S. Nat. Mus., no. 3, 1876, 115.

= *Chionides* Sharpe, Review Rec. Att. Classif. Birds, 1891, 72; Hand-list, i, 1899, xv, 145.

> *Subgrallatores* Sundevall, Met. Nat. Av. Disp. Tent., 1872, 119 (includes Attagides).

> *Chionoides* Stejneger, Standard Nat. Hist., iv, 1885, 92, in text (includes Attagides).

Superfamily JACANI.

=*Parrae* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1566.—SHARPE, Review Recent Att. Classif. Birds, 1891, 73; Hand-list, i, 1899, xvi, 168.

Medium-sized to rather small Limicolæ without occipital foramina or supraorbital grooves, coracoids overlapping, toes (including hallux) and their claws enormously elongated, and rectrices only 10.

Palate schizognathous; nares schizorhinal, without ossified internasal septum or ossification of nasal cartilages; basipterygoid processes present, well-developed; supraorbital grooves and occipital foramina absent; lachrymals small, ankylosed with the naso-frontal bones above, with the pars plena below; vomer emarginate apically; metasternum 2-notched; xiphoid sternal processes shorter than body of sternum; ribs reaching sternum, 5; clavicles farther from procoracoid at its articulation than in Charadrii; a more or less developed metacarpal spur, this when less developed accompanied by a dilation and flattening of the distal half of the radius, but when conspicuously developed the radius of normal form; syrinx with a pair of intrinsic muscles; thigh-muscle formula ABXY+, the ambiens, accessory femoro-caudal, and accessory semitendinosus muscles developed, the oddurator internus triangular; deep plantar tendons peculiar, there being no special slip from conjoined tendon of the long flexors to the hallux; carotid arteries, 2; caeca rudimentary ("mere passeriform nipples"); gall bladder present, well-developed; crop absent; gizzard muscular, with epithelial lining hard and thick; oil gland tufted; dorsal pteryla remarkably contracted (laterally) behind scapula, the pelvic portion dilated, the lumbar tracts weak and united to uropygial portion by sparse contour feathers; rectrices, 10.

Family JACANIDÆ.

THE JACANAS.

=*[Grallatores]* *Macronyches* VIEILLIOT, Analyse, 1816, 61.

=*Parridae* CARUS, Handb. Zool., i, 1868, 338.—GRAY, Hand-list, iii, 1871, 69.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, viii, 142.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108, 175.—COUES, Key N. Am. Birds, 2d ed., 1884, 669.—FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1226, 1566.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, ix, 68; Hand-list, i, 1899, xvi, 168.—GADOW, Classif. Vertebr., 1898, 35.—BEDDARD, Struct. and Classif. Birds, 1898, 346.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 340.

=*Parrinæ* GRAY, List Gen. Birds, 1840, 70; List Gen. Birds, 2d ed., 1841, 91; Gen. Birds, iii, 1849, 588; Gen. and Subgen. Birds, 1855, 119 (subfamily of *Palamedeidae*).—LILLJEBORG, Proc. Zool. Soc. Lond., 1866, 17 (subfamily of *Rallidae*).

=*Jacaniæ* STEJNEGER, Standard Nat. Hist., iv, 1885, 103, in text.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 166; 2d ed., 1895, 105; 3d ed., 1910, 133.—RIDGWAY, Orn. Illinois, ii, 1895, 18.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.—KNOWLTON, Birds of the World, 1909, 49, 382.

The osteological and other internal characters of the Jacanidæ are the same as those given for the Jacani on p. 5. Additional (external) characters are as follows:

Bill moderate in size, about as long as head, straight, compressed, the rhinotheca usually developed basally into a more or less conspicuous frontal plate or "leaf," sometimes a rictal lobe or leaf also; a more or less distinct metacarpal spur, in some genera conspicuously developed, conical, more or less recurved, and sharp, in others small and blunt; toes, including hallux, excessively elongated, with their claws long, slender, straight, and acute, that of the hallux much longer than its digit (sometimes three times as long) and slightly recurved.

In general appearance, as well as in habits, the Jacanidæ resemble members of the Rallidæ more than they do the Charadrii, to which they are far more closely related, since, like the latter, they differ from the former in their schizorhinal instead of holorhinal nares, the presence of well-developed basipterygoid processes, absence of occipital foramina and supraorbital grooves, emarginate instead of acuminate apex to vomer, and other characters. In the metacarpal spur they resemble certain genera of Charadrii, some of which also possess a rictal lobe. In the character of their excessively elongated toes and claws, however, they are entirely peculiar. These enable them to walk and run with ease upon the surface of floating leaves of aquatic plants.

The Jacanidæ are of intertropical distribution, but America possesses only one of the six recognized genera, the remainder being confined to Africa (including Madagascar), India, southern China, Borneo, the Philippines, New Guinea, Australia, etc.

KEY TO THE GENERA OF JACANIDÆ.

- a. Head without frontal shield or lobes.
 - b. Middle rectrices greatly elongated; tips of some of the primaries attenuated. (India to southern China, Philippines, Java, etc.).
 - Hydrophasianus* (extralimital).^a
 - bb. Middle rectrices not elongated; tips of primaries normal. (Southeastern Africa.)
 - Microparra* (extralimital).^b
- aa. Head with a frontal shield.
 - b. Frontal shield without free margins. (Africa, including Madagascar.)
 - Actophilus* (extralimital).^c

^a *Hydrophasianus* Wagler, Isis, 1832, 270 (type, by original designation, *Parra sinensis* Gmelin = *Tringa chirurgus* Scopoli).—*Hydrophasia* (emendation).

^b *Microparra* Cabanis, Journ. für Orn., 1877, 349 (type, by original designation, *Parra capensis* Smith).—*Aphalus* Elliot, Auk, v, July, 1888, 292 (type, by original designation, *Parra capensis* Smith). (Monotypic.)

This form not seen by me.

^c *Phyllopezus* (not of Peters, 1877) Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 76 (type, *Parra africana* Gmelin).—*Actophilus* Oberholser, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 202 (new name for *Phyllopezus* Sharpe, preoccupied). (Two species.)

bb. Frontal shield with free margins.

c. Metacarpal spur rudimentary or small, blunt; primaries wholly blackish.

d. Frontal shield very large, ridged or crested medially; bill more slender, not longer than head. (Australia, New Guinea, Celebes, southeastern, Borneo, and Philippines.).....*Irediparra* (extralimital).^a

dd. Frontal shield small, not ridged or crested medially; bill much stouter, longer than head. (India to Siam, Java, Sumatra, and Celebes.)

Metopidius (extralimital).^b

cc. Metacarpal spur well-developed, sharp; primaries greenish yellow, margined terminally with blackish.....*Jacana* (p. 7).

Genus JACANA Brisson.

Jacana BRISSON, Orn., v, 1760, 121. (Type, by tautonymy, [*Jacana*] *jacana* Brisson=*Parra jacana* Linnæus.)

Parra LINNÆUS, Syst. Nat., ed. 12, i, 1766, 259. (Type, *P. jacana* Linnæus.)

Asarcia^c SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 86. (Type, by original designation, *Parra variabilis* Linnæus=*Fulica spinosa* Linnæus.)

Rather small Jacanidæ (wing 110–140 mm.) with a well-developed acute metacarpal spur, a conspicuous bifid or trifid frontal shield, and with the primaries greenish yellow, margined terminally with dusky.

Bill about as long as or longer than head, somewhat plover-like in form, the basal half with upper and lower outlines nearly parallel and decidedly approximated, the terminal half enlarged (vertically) through decided convexity of culmen and prominence of gonydeal angle, the gonys nearly straight, ascending terminally; nostril small, longitudinally elliptical, situated about half-way between anterior angle of eye and tip of bill; nasal fossæ large and relatively broad, extending about to base of arched distal portion of culmen; malar antia far anterior to obliquely vertical line of loreal antia, the mental antia extending nearly if not quite as far as anterior end of nostril; rhinotheca continued basally over forehead in form of a conspicuous frontal shield with free margins, its posterior margin bifid or trifid; rictus with a smaller pendent lobe (rudimentary or obsolete in *J. spinosa*). Wing ample but rounded, the three outermost primaries longest and nearly equal, and scarcely if at all extending beyond tips of longest elongated but broad tertials; inner webs of longest primaries slightly contracted terminally. Tail very short, the rectrices very soft, entirely concealed by coverts, 10 in number. Tarsus between one-half and one-third as long as wing, compressed, continuously transversely scutellate before and behind, the scutella, however, sometimes fused into nearly continuous plates; bare por-

^a *Hydralector* of authors (not of Wagler, Isis, 1832, 280). *Irediparra* Mathews, Novit. Zool., xviii, 1911, 7 (type, by original designation, *Parra gallinacea* Temminck). (Monotypic.)

^b *Metopidius* Wagler, Isis, 1832, 279 (type, by subsequent designation, *Parra indica* Latham). (Monotypic.)

^c *Ἀσάρκος*, without flesh, lean. (Richmond.)

tion of tibia about half as long as tarsus, also transversely scutellate, or ocreate ("booted") both anteriorly and posteriorly; middle toe, without claw, about as long as tarsus or a little shorter, the outer toe about the same length, the inner toe a little shorter; hallux about as long as basal phalanx of middle toe, its claw much longer than the digit, (sometimes three times as long) slender, compressed, acute, straight or sometimes slightly recurved terminally; claws of anterior toes similar in form to that of hallux but much shorter (about as long as basal phalanx of middle toe); interdigital spaces completely cleft.

Coloration.—Adults with head, neck, and chest uniform black (sometimes whole plumage, except primaries and secondaries black), the remiges (except tertials) yellowish green or greenish yellow, margined terminally with blackish, other portions chestnut-rufous, chestnut, or maroon. Young whitish or buffy beneath, grayish brown above, the remiges much as in adults.

Range.—American tropics, except Lesser Antilles and Galapagos Archipelago. (Three species.)

KEY TO THE SPECIES AND SUBSPECIES OF JACANA.

- a. Frontal shield with posterior margin bifid; a well-developed rictal lobe or wattle. (*Jacana*.)
 - b. Back, scapulars, wing-coverts, etc., bright hazel to chestnut; sides and flanks dark chestnut. (*Jacana jacana*.)
 - c. Color of back, etc., lighter chestnut; size averaging larger. (Brazil, Guianas, etc.).....*Jacana jacana jacana* (extralimital).^a
 - cc. Color of back, etc., darker chestnut; size averaging smaller. (Venezuela.)
Jacana jacana intermedia (extralimital).^b
 - bb. Back, scapulars, wing-coverts, etc., maroon to greenish black; sides and flanks black. (Colombia and Panama.).....*Jacana nigra* (p. 15).
- aa. Frontal shield with posterior margin trifid; rictal lobe or wattle rudimentary or obsolete. (*Asarcia*.) (*Jacana spinosa*.)
 - b. Back, etc., more rufescent chestnut.
 - c. Frontal shield smaller; color of under parts darker and duller. (Mexico.)
Jacana spinosa gymnostoma (p. 12).
 - cc. Frontal shield larger; color of under parts brighter. (Guatemala to western Panama.)*Jacana spinosa spinosa* adults (p. 9).
 - bb. Back, etc., more purplish chestnut or maroon. (Greater Antilles.)
Jacana spinosa violacea adults (p. 13).

^a [*Parra*] *jacana* Linnæus, Syst. Nat., ed. 12, 1766, 259 (Brazil; based on *Spur-winged Water-hen of Brazil* Edwards, Gleanings, iii, 1764, 305, pl. 357); Gmelin, Syst. Nat., i, pt. ii, 1789, 707; Latham, Index, Orn., ii, 1790, 762.—*Parra jacana* Temminck, Cat. Syst., 1807, 177; Maximilian, Beitr. Naturg. Bras., iv, 1833, 786; Burmeister, Syst. Ueb. Th. Bras., iii, 1856, 394; Sclater, Proc. Zool. Soc. Lond., 1856, 282 (monogr.); Hudson Proc. Zool. Soc. Lond., 1876, 103 (Argentina; habits); Sclater and Hudson, Argentine Orn., ii, 1889, 163.—*Jacana jacana* Elliot, Auk, v, July, 1888, 294, part (monogr.); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 82, part (excl. syn. *Parra intermedia* Sclater).—*Jacana jacana jacana* Hellmayr, Novit. Zool., xiii, 1906, 53.—*Parra jassana* Lichtenstein, Verz. Säug. und Vögel Mus. Berlin, 1818, 35.—*P[arra] jassana* Cabanis, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 759.

^b *Parra intermedia* Sclater, Proc. Zool. Soc. Lond., 1856, 282 (Venezuela; ex Verreaux, manuscript);

JACANA SPINOSA SPINOSA (Linnæus).**CENTRAL AMERICAN JACANA.**

Adults (sexes alike).—Head, neck, chest, and extreme upper back uniform black, with a faint greenish gloss; back, scapulars, tertials, and wing-coverts plain bay or maroon, the rump, upper tail-coverts, and tail darker and more purplish (dark maroon), the middle rectrices tipped with blackish; under parts of body dull maroon laterally, usually darker and duller (sometimes decidedly dusky) medially, passing into grayish brown or sooty brown on lower abdomen, anal region, and anterior under tail-coverts, the longer (posterior) under tail-coverts darker, more or less tinged with maroon; axillars and under wing-coverts uniform maroon, the coverts along edge of wing (broadly) dark purplish brown or blackish maroon; remiges (except tertials) dull greenish yellow or yellowish green (nearest lime green), margined terminally with black, most broadly on longer primaries; bill (in life) yellow, the basal portion of maxilla whitish, and above this a red or dusky space at base of frontal shield, the latter also yellow; iris dark brown (sometimes yellow?); legs and feet greenish (in life).

Young.—Frontal shield rudimentary. Pileum grayish brown, bordered laterally by a broad superciliary stripe of buffy white, extending from base of maxilla to occiput; beneath the posterior portion of this a narrow postocular stripe of black or dusky, extending from posterior angle of eye, along upper edge of auricular region, to nape, which is also of the same color; general color of upper parts (except remiges) light grayish brown, the feathers margined terminally with buff in younger stages, the rump more or less tinged with chestnut; sides of head, below dusky postocular stripe, and under parts (except sides) buffy white or very pale buff, more strongly tinged with buff on chest; sides, axillars, and under wing-coverts plain blackish or fuscous, more or less tinged with chestnut in older individuals; primaries and secondaries as in adults; tail grayish brown.

Downy young.—"Covered with down of a remarkable pattern. The crown orange tawny; the nape and hind neck dusky black; the mantle and back orange tawny, the back a little the darker and having a line of black on each side of the central tract, this being followed by a broad band of ochreous buff down the sides of the back, this being again inclosed by a broad black band, which joins at the tail; wings orange tawny, the manus white; a narrow frontal line, sides of face and under surface covered with white down; a black line extending from behind the eye and joining the black of the hind neck; the downy wing with black edgings and a zigzag line of black on the flanks, and the upper part of the thighs also black."^a

^a Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 87.

Adult male.—Wing, 115–121 (118.3); tail, 40.5–43 (42.2); bill from nostril, 17–18.5 (17.7); from posterior edge of frontal shield, 41.5–48 (43.8); tarsus, 52.5–55 (53.5); middle toe, 51.5–54 (52.5).^a

Adult female.—Wing, 128–131 (129.7); tail, 43–45.5 (44.5); bill from nostril, 18–19 (18.7); from posterior edge of frontal shield, 43.5–47 (45.5); tarsus, 56–59 (57.2); middle toe, 54–55 (54.5).^a

Central America, from Guatemala (Humachál; Lake Petén; Santa Ana de Mixtán; Lake Amatitlán) southward through British Honduras (Belize River; Orange Walk), Honduras (Omoa; Truxillo; Tigre Island; Lake Yojoa), Nicaragua (Greytown; Rio Escondido; Lake Nicaragua; Momotombo; Omotepe, Sucuyá) and Costa Rica (La Palma de Nicoya; Las Trojas de Alajuela; Siquirres; Lake Ochomongo; Salistrál de San Antonio; Tenorio; Barranca de Punta Arenas; Miravalles; mouth of Rio Matina) to western Panamá (Divalá, Chiriquí).

^a Three specimens.

Locality.	Wing.	Tail.	Bill from nostrils.	Bill from posterior edge of frontal shield.	Tarsus.	Middle toe.
MALES.						
One adult male from southern Texas (<i>J. s. gymnotoma</i>).....	119	38	17.5	43.5	55	53
Five adult males from eastern Mexico (<i>J. s. gymnotoma</i>).....	119.6	42.5	17.6	42.3	52.9	53
Five adult males from western Mexico (<i>J. s. gymnotoma</i>).....	119.9	41.6	17.4	41.2	51.7	51.1
One adult male from Guatemala (<i>J. s. spinosa</i>).....	119	43	17.5	41.5	52.5	52
One adult male from Honduras (<i>J. s. spinosa</i>).....	121	43	18.5	48	55	54
One adult male from Nicaragua (<i>J. s. spinosa</i>).....	115	40.5	17	42	53	51.5
Nine adult males from Cuba (<i>J. s. violacea</i>).....	124.1	41.2	17.8	42.8	54.4	54.1
Seven adult males from Isle of Pines (<i>J. s. violacea</i>)...	114.5	38.9	17.1	41.2	52.9	52
Two adult males from Jamaica (<i>J. s. violacea</i>).....	113.5	39.5	18	39.7	51.7	53
FEMALES.						
Two adult females from eastern Mexico (<i>J. s. gymnotoma</i>).....	135.2	49	19	47.7	56	54.7
Seven adult females from western Mexico (<i>J. s. gymnotoma</i>).....	139.3	45.8	19.2	45.7	53.9	52.6
One adult female from Guatemala (<i>J. s. spinosa</i>).....	128	43	19	47	59	55
Two adult females from Nicaragua (<i>J. s. spinosa</i>).....	130.5	45.2	18.5	45.2	56.2	54.2
Four adult females from Cuba (<i>J. s. violacea</i>).....	131.6	43.5	18.5	46.9	57.2	54.7
Six adult females from Isle of Pines (<i>J. s. violacea</i>).....	129.1	44.2	18.2	46.2	57.2	56.6
Two adult females from Haiti (<i>J. s. violacea</i>).....	136.7	47.5	19.5	46	56.7	57.7

It is almost certain that some of the specimens measured have the sex wrongly determined. (See Todd, Ann. Carnegie Mus., x, 1916, 217, 218.)

- [*Fulica*] *spinosa* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 152 ("Cartagena," Colombia; based on *Spur-winged water-hen* Edwards, Nat. Hist. Birds, i, 1743, 48, pl. 48).^a
- Jacana spinosa* STEJNEGER, Auk, ii, Oct., 1885, 338, in text.—ELLIOT, Auk, v, 1888, 297, part (monogr.; Guatemala; Honduras, Costa Rica); N. Am. Shore Birds, 1895, 215, pl. (frontispiece).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. to Check List, 1889, 21, part; Check List, 2d ed., 1895, no. 288, part; 3d ed., 1910, 133, part.—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 531 (Greytown and Rio Escondido, Nicaragua).
- [*Jacana*] *spinosa* RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 183, part.
- Jacana spinosa spinosa* TODD, Ann. Carnegie Mus., x, Jan. 31, 1916, 220 (Central America; crit.).—GMELIN, Syst. Nat., i, pt. 2, 1789 708.—LATHAM, Index Orn., ii, 1790, 763 ("Cayenne"; "Brazil").
- Asarcia spinosa* COUES, Auk, xiv, Jan., 1897, 83 (crit. nomencl.).
- [*Parra*] *variabilis* LINNÆUS, Syst. Nat., ed., 12, i, 1766, 260 ("Cartagena," Colombia; based on *Spur-winged water-hen* Edwards, Nat. Hist. Birds, i, 1743, 48 pl. 48—basis also of *Fulica spinosa* of ed. 10; =young).
- Parra variabilis* VIEILLOT, Nouv. Dict. d' Hist. Nat., xvi, 1817, 450; Tabl. Enc. Méth., iii, 1823, 1055, pl. 60, no. 2.
- Asarcia variabilis* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 86, part (Orange Walk and Belize River, Brit. Honduras; Huamachal and Lake Peten, Guatemala; Honduras; Momotombo and Rio Escondido, Nicaragua; Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 342 (Orange Walk and Belize River, Brit. Honduras; Santa Ana Mixtan, Huamachal, Lake Peten, and Lake Amatitlán, Guatemala; Omoa, Truxillo, Tigre Island, and Lake Yojoa, Honduras; Greytown, Omotépe, Momotombo, Sucuya, Rio Escondido, and Lake Nicaragua, Nicaragua; Las Trojas, Siquirres, Lake Ochomongo, Salitral de San Antonio, and La Palma de Nicoya, Costa Rica; Divala, Panama).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 424 (Tenorio, Barranca de Punta Arenas, Miravalles, and mouth of Rio Matina, Costa Rica; habits).
- [*Asarcia*] *variabilis* SHARPE, Hand-list, i, 1899, 169, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 60 (Honduras; Lake Peten, Guatemala).
- Parra jacana* (not of Linnæus) STEPHENS, Gen. Zool., xii, i, 1824, 263, part.
- Parra gymnotoma* (not of Wagler, 1831) SCLATER, Proc. Zool. Soc. Lond., 1856, 283, part (Honduras; monogr.); 1858, 360 (Tigre Island, Honduras).—SCLATER and SALVIN, Ibis, 1859, 231 (Peten, Santa Ana Mixtan, and Lake Amatitlán, Guatemala; Belize, Brit. Honduras; Omoa, Honduras).—TAYLOR, Ibis, 1860, 314 (Tigre Island and Lake Yojoa, Honduras; habits).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 184 (Greytown, Nicaragua).—FRANTZIUS, Journ. für Orn., 1869, 375 (Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., i, 1878, 167, pl. 3, part (synonymy, descr., etc.).—NUTTING, Proc. U. S. Nat. Mus., v, 1882, 409 (La Palma de Nicoya, Costa Rica; habits); vi, 1884, 396 (Omotepe, Nicaragua; habits).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 176, part.

^a The only species of *Jacana* known to occur at or near Cartagena is *J. nigra*; nevertheless, the bird described and figured by Edwards, upon which Linnæus based his *Fulica spinosa*, was evidently this species, in transition (from juvenal to adult) plumage. (See Elliot, Auk, v, 1888, 298, 299.) We must assume, therefore, either that Edwards was mistaken as to the locality of his bird or else that the present species may occasionally occur, as a straggler from the Isthmus, as far along the Colombian coast as Cartagena. Whether Cartagena was really the locality whence Edwards' bird came or not, however, it becomes necessary to restrict the name *spinosa* to one or another of the three subspecies into which the species is divisible, as has been done by Mr. W. E. Clyde Todd (Ann. Carnegie Mus., x, 1916, 218, 219), who designated Panama as the type locality. He should, however, have specified western Panama, since *J. spinosa* is known to occur only in the extreme western portion of the Isthmus, being replaced from the Canal Zone eastward by *J. nigra*.

[*Parra*] *gymnostoma* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 142, part.

J [acana] *gymnostoma* RIDGWAY, Man. N. Am. Birds, 1887, 183, part.

Jacana gymnostoma ZELEDÓN, Proc. U. S. Nat. Mus., viii, May 25, 1885, 114 (Costa Rica); Anal. Mus. Nac. C. R., i, 1888, 31 (Las Trojes de Alajuela and Siquirres, Costa Rica).

JACANA SPINOSA GYMNOTOMA (Wagler).

MEXICAN JACANA.

Similar to *J. s. spinosa* but averaging slightly larger (except bill and feet), frontal shield smaller, and adults with color of under parts duller, often tinged with brownish, and less abruptly defined against the greenish black of chest.

Adult male.—Wing, 112–124 (119.9); tail, 38–45 (41.3); bill from nostril, 16.5–19.5 (17.5); from posterior edge of frontal shield, 36.5–45.5 (41.5); tarsus, 46.5–55 (52); middle toe, 45–54 (51.3).^a

Adult female.—Wing, 130–139 (135.1); tail, 43–52 (46.5); bill from nostril, 17.5–20 (19.2), from posterior edge of frontal shield, 40–49.5 (46.2); tarsus, 51–57 (54.3); middle toe, 48.5–56 (53.1).^b

Mexico, in States of Chiapas (Tonálá), Tabasco (Teapa; San Juan Bautiste), Yucatán (Buctzotz; Shkolak; Cozumel Island), Oaxaca (Santa Efigénia; Zonátepec); Guerrero (Acapulco), Colima (Manzanillo Bay; Rio Zacatula; Rio de Coahuayana), Michoacán (Lake Patzcuaro; Huinga), Jalisco (Zapotlán; Ocotlán; Guadalajara), Sinaloa (Mazatlán; Presidio de Mazatlán), Guanajuato, Puebla (Laguna de Epatlán), Vera Cruz (Jalapa; Jomotla; Jonatál; Santa Ana; Tlalcotalpám; Cosamaloapám; Alvarado), and Tamaulipas (Tampico, Alta Mira), and Territory of Tepic (San Blas; Santiago; Tepic), and lower Rio Grande Valley in Texas (Fort Brown; Brownsville).

Parra *Jacana* (not of Linnæus) BONAPARTE, Proc. Zool. Soc. Lond., 1837, 114 Mexico; crit.).

Parra gymnostoma WAGLER, Isis, 1831, 517 (Mexico).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1856, 283, part (Mazatlan, Sinaloa; Acapulco, Guerrero; monogr.).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 312 (Mazatlan; Manzanillo Bay, Rio Zacatula, and Rio de Coahuayana, Colima; habits; descr. nest and eggs); Bull. U. S. Nat. Mus., no. 4, 1876, 50 (Santa Efigenia; Zonatepec).—MERRILL (J. C.), Bull. Nutt. Orn. Club, i, 1876, 88 (Fort Brown, Texas); Proc. U. S. Nat. Mus., i, 1878, 168 (Fort Brown).—RIDGWAY, Proc. U. S. Nat. Mus., i, 1878, 167, part, pl. 3 (synonymy, descr., etc.); iii, 1880, 201; Nom. N. Am. Birds, 1881, no. 568.—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 91 (Fort Brown, Texas).—COUES, Check List, 2d ed., 1882, no. 672.—SALVIN, Proc. Zool. Soc. Lond., 1883, 428 (Acapulco, Guerrero); Ibis, 1889, 379 (Cozumel Island).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 462 (Yucatan).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 176, part.

[*Parra*] *gymnostoma* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142, part.

P[arra] gymnostoma COUES, Key N. Am. Birds, 2d ed., 1884, 669, part.

^a Eleven specimens.

^b Nine specimens. Average measurements as given by Mr. Todd (Ann. Carnegie Mus., x, 218) are as follows:

Adult males (nine specimens).—Wing, 117; tail, 41; "bill" (manner of measurement not stated), 29; tarsus, 49.

Adult females (six specimens).—Wing, 133.5; tail, 46; "bill," 31.3; tarsus, 51.

Jacana gymnostoma AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 288, part.

[Jacana] gymnostoma RIDGWAY, Man. N. Am. Birds, 1887, 183, part.

Jacana spinosa gymnostoma TODD, Ann. Carnegie Mus., x, Jan. 31, 1916, 220 (Mexico; crit.).

Parra cordifera LESSON, Rev. Zool., 1842, 135 (Acapulco, Guerrero; coll. Paris Mus., fide Des Murs, Icon. Orn.).—DES MURS, Icon. Orn., Liv. 7, Dec., 1846, pl. 42.

Jacana cordifera DES MURS, Icon. Orn. (1846?), table of contents.

Asarcia variabilis (not *Parra variabilis* Linnæus) SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 86, part (Brownsville, Texas; Mazatlan and Presidio de Mazatlan, Sinaloa; Zapotlan, Jalisco; Tepic, San Blas, and Santiago, Tepic; Acapulco, Guerrero; Tampico and Altamira, Tamaulipas; Jalapa and Jomotla, Vera Cruz; Teapa, Tabasco; Buctzotz and Cozumel Island, Yucatan).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 342, part. (lower Rio Grande Valley, Texas; Mazatlan; Manzanillo Bay, Rio Zacatulo, and Rio de Coahuylana, Colima; Guanajuato; Guadalajara, Zapotlan, and Jalisco, Jalisco; Lake Patzcuaro, Michoacan; Acapulco, Guerrero; Altamira and Tampico, Tamaulipas; Jalapa, Santa Ana, Jonatal, Cosamaloapam, and Alvarado, Vera Cruz; Laguna de Epatlan, Puebla; Santa Efigenia and Zonatepec, Oaxaca; Teapa, Tabasco; Buctzotz, Shkolak, and Cozumel Island, Yucatan; Tonalá, Chiapas?).

[Asarcia] variabilis SHARPE, Hand-list, i, 1899, 169, part.

JACANA SPINOSA VIOLACEA (Cory).

WEST INDIAN JACANA.

Similar to *J. s. spinosa* but adults more richly colored, the greenish black more abruptly defined against the richer maroon color of breast, etc., the back deeper or richer maroon, and frontal shield averaging larger.

Adult male.—Wing, 111–137 (119.2); tail, 37–45 (40); bill, from nostril, 16.5–19 (17.5), from posterior margin of frontal shield, 39–49 (41.9); tarsus, 48–59.5 (53.5); middle toe, 48–58 (53.1).^a

Adult female.—Wing, 118–140 (131.1); tail, 41–48 (44.5); bill from nostril, 17–20 (18.5), from posterior margin of frontal shield, 41.5–50 (46.4); tarsus, 55–59 (57.1); middle toe, 51–58.5 (56.2).^b

^a Eighteen specimens.

^b Twelve specimens.

Locality.	Wing.	Tail.	Bill from nostril.	Bill from post margin of frontal shield.	Tarsus.	Middle toe.
MALES.						
Nine adult males from Cuba.....	124.1	41.2	17.8	42.8	54.4	54.1
Seven adult males from Isle of Pines.....	114.5	38.9	17.1	41.2	52.9	52
Two adult males from Jamaica.....	113.5	39.5	18	39.7	51.7	53
FEMALES.						
Four adult females from Cuba.....	131.6	43.5	18.5	46.9	57.2	54.7
Six adult females from Isle of Pines.....	129.1	44.2	18.2	46.2	57.2	56.6
Two adult females from Haiti.....	126.7	47.5	19.5	46	56.7	57.7

Mr. Todd's averages are as follows:

Adult males (ten specimens).—Wing, 116.5; tail, 40; "bill," 30; tarsus, 51.5.

Adult females (ten specimens).—Wing, 132; tail, 44; "bill," 33; tarsus, 55.5.

Greater Antilles: Cuba (Cabañas; San Pablo; Trinidad; San Diego de los Baños; Bueyrito, Oriente). Isle of Pines (Santa Ana; Pasadita; Nueva Gerona; Laguna Grande). Haiti (Gantier; Le Coup; San Luis, Santo Domingo). Jamaica (Westmoreland). Porto Rico. Accidental in southern Florida (Pelican Bay, Lake Okechobee, Oct., 1899) ?

[*Parra*] *jacana* LATHAM, Index Orn., ii, 1790, 762, part (Santo Domingo).

Parra jacana (not of Linnæus) VIEILLOT, Nouv. Dict. d'Hist. Nat., xvi, 1817, 446, part (Santo Domingo).—VIGORS, Zool. Journ., iii, 1827, 448 (Cuba).—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 249.—CABANIS, Journ. für Orn., 1856, 425 (Cuba).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 89 (Cuba; descr. nest and eggs); 1875, 388 (Cuba; habits); 1878, 162, 189 (Porto Rico); Repert. Físico-Nat. Cuba, i, 1866, 360; Anal. Soc. Esp. Hist. Nat., vii, 1878, 385 (Porto Rico).—STAHL, Ornith., vol. 3, 1887, 452 (Porto Rico).

Parra gymnostoma (not of Wagler, 1831) CORY, Birds Haiti and San Dom., 1885, 159, pl. [20].

[*Jacana*] *gymnostoma* RIDGWAY, Man. N. Am. Birds, 1887, 183, part (Cuba; Haiti).

Jacana gymnostoma AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 288, part.

Jacana spinosa (not *Fulica spinosa* Linnæus) ELLIOT, Auk, v, 1888, 297, part (Haiti; Cuba).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. to Check List, 1889, 21, part; Check List, 2d ed., 1895, no. 288, part (Cuba; Haiti); 3d ed., 1910, 133, part (Greater Antilles).—CORY, Birds West Ind., 1889, 252; Cat. West. Ind. Birds, 1892, 92 (Cuba; Isle of Pines; Haiti; Jamaica; Porto Rico); Auk, ix, 1892, 272 (San Diego de los Baños, Cuba).—SCOTT, Auk, ix, 1892, 15 (Westmoreland, Jamaica).—CHAPMAN, Bull. Am. Mus. Nat. Hist., iv, 1892, 290 (San Pablo, s. Cuba; habits).—COCKERELL, Proc. Zool. Soc. Lond., 1893, 472 (Jamaica).—CHERRIE, Contr. Orn. San Dom., 1896, 25 (fresh colors unfeathered parts).—(?) MEARNS, Auk, xix, 1902, 79 (Pelican Bay, Lake Okechobee, Florida, Oct., 1899).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 38 (Porto Rico; 1 record only).

[*Jacana*] *spinosa* RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 183, part (Cuba; Haiti).

Asarcia spinosa BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 196 (Isle of Pines, Cuba; habits).

Asarcia variabilis (not *Parra variabilis* Linnæus) SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 86, part (Haiti).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 342, part (Cuba; Haiti; Porto Rico).

[*Asarcia*] *variabilis* SHARPE, Hand-list, i, 1899, 169, part (Greater Antilles).

Parra violacea CORY, Bull. Nutt. Orn. Club, vi, July, 1881, 130, 155 ([near Gantier], Haiti; coll. C. B. Cory); Auk, v, 1888, 51 (Cuba; Haiti; descr.; synonymy).—REICHENOW and SCHALOW, Journ. für Orn., 1882, 114 (reprint orig. descr.).

[*Parra*] *violacea* CORY, List Birds West Ind., 1885, and revised ed., 1886, 29 (Cuba; Santo Domingo).

Jacana spinosa violacea TODD, Ann. Carnegie Mus., x, Jan. 31, 1916, 217 (Santa Ana and Pasadita, Isle of Pines; crit.).

JACANA NIGRA (Gmelin).**BLACK JACANA.****BLACK-BACKED PHASE.**

Adult (sexes alike).—General color, including axillars and under wing-coverts, plain black of a very faint greenish cast, the under wing-coverts and posterior under parts sometimes more sooty, becoming somewhat more brownish (sometimes warm blackish brown or seal brown), occasionally margined with black, on tertials and posterior scapulars; primaries and secondaries dull yellowish green (lime green or dull citron green), margined terminally with blackish, the blackish margins very narrow and strictly terminal on secondaries, broader on primaries, especially the longer ones, on which they continue for a greater or less distance along both webs, the outermost primary with outer web wholly blackish; bill yellow, the basal portion, together with frontal shield and rectal lobes, red or orange (in life); iris brown; legs and feet dusky (bluish gray in life).

MAROON-BACKED PHASE.

Adults (sexes alike).—Back, scapulars, wing-coverts (at least the proximal and posterior ones), and tertials, sometimes rump and upper tail-coverts also, plain dark purplish brown (maroon to diamine brown); head, neck, extreme upper back, and under parts, including axillars and under wing-coverts (sometimes rump, upper tail-coverts, and distal and anterior wing-coverts also), uniform greenish black, the posterior under parts usually somewhat duller or more brownish; primaries and secondaries as in the black-backed phase.

Young (both phases).—Pileum plain deep sooty brown or blackish brown, bordered laterally by a broad superciliary stripe of dull buffy white (sometimes distinctly buff posterior to the eye), extending from bill to sides of occiput; a broad stripe extending from eye to nape, together with hindneck, extreme upper back, rump, and upper tail-coverts, plain black; back, scapulars, wing-coverts, tertials, and tail plain grayish brown, with a faint bronzy gloss; primaries and secondaries as in adults, but with terminal margins dusky grayish brown instead of black, and rather broader; suborbital, rectal and malar regions, and entire under parts immaculate buffy white, the foreneck and chest sometimes distinctly buffy; frontal shield greatly reduced in size, and rectal lobe absent or rudimentary; bill brownish, the mandible paler; frontal and rectal lobes pinkish; legs and feet dusky grayish or olive.

Adult male.—Wing, 113–128 (118.3); tail, 36–46.5 (39.9); bill, from nostril, 15.5–18.5 (17.2); from posterior margin of frontal

shield, 36.5–44 (39.7); tarsus, 47.5–58 (52.7); middle toe, 48.5–61 (54).^a

Adult female.—Wing, 124–134 (129.7); tail, 41.5–47 (44.2); bill from nostril, 16–20 (18.6); from posterior margin of frontal shield, 41–45 (43.3); tarsus, 52–60 (56.5); middle toe, 54–63 (56.7).^b

From careful examination of the fairly satisfactory series available, it seems extremely probable that the black-backed specimens (*J. nigra*) and those with purplish brown or maroon back (commonly called *J. melanopygia*) are simply color phases of one species. Not only do they occur together wherever either is found, but the two extremes are connected by intermediate specimens. *Parra hypomelæna* Gray represents an intermediate condition of plumage, the colored plate indicating a bird with black back and scapulars, but brown wing-coverts and tertials.

It is possible that these separate phases may be amenable to local influences, to a greater or less degree, the black-backed one predominating in one locality, the maroon-backed one in another. It is significant that the series examined from the Rio Cauca district of western Colombia (five adult males and three adult females) *all* represent the brown-backed phase.

Panamá (David, Chiriquí; Calobre, Castillo, and Santa Fe, Veragua; Lion Hill; Rio Trinidad; Bohio; Laguna de Pitál), and Colombia (Rio Atrato; Cartagena; delta del Rio Magdalena; Barranquilla; Santa Marta, Cienega, Fundación, Mamatoco, and Bonda, Santa Marta; Santa Elena, Antioquia; Bogotá; Laguna de Patúria; Guabinas, Rio Cauca). Northeastern Peru (Sarayacu) ?

^a Sixteen specimens.

^b Nine specimens.

Locality.	Wing.	Tail.	Bill from nostril.	Bill from posterior margin of frontal shield.	Tarsus.	Middle toe.
MALES.						
Five adult males from Panama (Canal Zone).....	119.2	38.2	18	38.9	52.4	53.5
One adult male from Rio Atrato, Colombia.....	114	39	18	38	51.5	56
Three adult males from Santa Marta, Colombia.....	120	41.5	16.8	40.7	54.3	55.5
Two adult males from "Bogota" Colombia.....	117.5	38	17.2	40.2	57.5	53.5
Five adult males from Rio Cauca, western Colombia..	117.4	41.8	16.6	40.1	50.5	51.5
FEMALES.						
Two adult females from Panama (Canal Zone).....	130.5	44.5	19.5	44.5	59.5	56
One adult female from Barranquilla, Colombia.....	124	44	19.5	44	52	54
Two adult females from Santa Marta, Colombia.....	128	44.2	18.7	42	56.7	56.2
Three adult females from Rio Cauca, western Colombia.	130.7	42.8	18.5	42.8	56	56.8
One adult female (?) from "Bogota," Colombia.....	134	47	16	44.5	60	63

- [*Parra*] *nigra* GMELIN, Syst., Nat., i, pt. ii, 1789, 708 ("Brasilia"; based on *Jacana armata nigra* Brisson, Orn., v, 124).—LATHAM, Index Orn., ii, 1790, 762 ("Brazil").
- Parra nigra* VIEILLOT, Nouv. Dict. d'Hist. Nat., xvi, 1817, 448 ("Brazil"); Tabl. Enc. Méth., iii, 1823, 1054.—SCHLEGEL, Mus. Pays-Bas, v, no. 30, livr. 7 (Ralli), 1865, 65.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 342 (David, Calobre, Lion Hill, and Laguna del Pita, Panama; Colombia; Venezuela; Amazonia).
- Jacana nigra* ELLIOT, Auk, v, July, 1888, 296 (monogr.).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 84 (Lion Hill and Calobre, Panama; Antioquia and Bogota, Colombia).—BANGE, Proc. New Engl. Zool. Club, ii, 1900, 14 (Loma del Leon, Panama).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 126 (Cienega, Santa Marta, Colombia).
- [*Jacana*] *nigra* SHARPE, Hand-list, i, 1899, 168.
- ?[*Parra*] *brasiliensis* GMELIN, Syst. Nat., i, pt. 2, 1789, 708 (Brazil; Cayenne; Guiana; based on *Jacana armata* Brisson, Orn., v, 123).—LATHAM, Index Orn., ii, 1790, 763.
- (?) *Parra brasiliensis* VIEILLOT, Nouv. Dict. d'Hist. Nat., xvi, 1817, 448; Tabl. Enc. Méth., iii, 1823, 1054.
- (?) [*Parra*] *viridis* GMELIN, Syst. Nat., i, pt. ii, 1789, 708 (Brazil).—LATHAM, Index Orn., ii, 1790, 763.—VIEILLOT, Tabl. Enc. Méth., iii, 1823, 1055.
- Parra hypomelæna* GRAY, Gen. Birds, iii, 1846, pl. 159.—SCLATER, Proc. Zool. Soc. Lond., 1856, 283 (monogr.; Santa Marta, Bogota, and Cartagena, Columbia; Chiriqui, Panama); 1857, 20 (Bogota).—SALVIN, Proc. Zool. Soc. Lond., 1870, 218 (Calobre, Veragua, Panama; crit.).—WYATT, Ibis, 1871, 116 (Barranquilla, Colombia), 383 (Lake Paturia and delta of Rio Magdalena, Colombia).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 546 (Santa Elena, Antioquia, Colombia).—BERLEPSCH, Journ. für Orn., 1884, 320 (Lake Paturia).
- [*Parra*] *hypomelæna* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142.
- Parra melanopygia* SCLATER, Proc. Zool. Soc. Lond., 1856 [pub. Jan. 26, 1857], 283 (Santa Marta, Colombia; coll. Verreaux; =maroon-backed phase).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 301 (Lion Hill, Panama).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 372 (Panama).—SALVIN, Proc. Zool. Soc. Lond., 1867, 161 (Santa Fe de Veragua, Panama); 1870, 218 (Calobre and Castillo, Veragua, Panama).—BERLEPSCH, Journ. für Orn., 1889, 320 (Sarayacu, n. e. Peru; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 341 (Castillo, Calobre, and Santa Fe, Veragua, Panama; Santa Marta, Colombia).
- [*Parra*] *melanopygia* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142.
- Jacana melanopygia* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 84 (Castillo Calobre, and Santa Fe, Veragua, Panama).
- [*Jacana*] *melanopygia* SHARPE, Hand-list, i, 1899, 168.

Superfamily CEDICNEMI.

- =*Edicnemi* SHARPE, Review Rec. Att. Classif. Birds, 1891, 73; Hand-list, i, 1899, xvi, 172.
- >*Otidæ* FÜRBRINGER, Unters. Morph. Syst. Vog., ii, 1888, 1556 (*Otididæ*+*Edicnemidæ*).

Holorhinal Limicolæ with supraorbital grooves present and coracoids overlapping.

Basipterygoid processes absent; occipital foramina absent; inter-orbital septum incomplete; cervical vertebrae, 16; fused dorsal verte-

bræ, none; ribs articulating with sternum, 15-16; coracoids slightly overlapping at their external articulation; metasternum 4-notched; hallux absent; thigh-muscle formula, ABXY + or BXY +; caudo-ilio-femoralis muscle with iliac head present (*Ædicnemus superciliaris* and *Æ. bistratus*) or absent (in genus *Burhinus*); propatagialis longus muscle present; nasal glands small or large; nares impervious; pterylosis essentially charadriine; aftershaft present; oil gland tufted; powder-downs absent; fifth remex absent (aquincubital).

The *Ædicnemi* present points of relationship with the *Otides* (Bustards), with which they agree in their holorhinal nostrils, but from which they differ in the following characters:

	<i>Ædicnemi</i> .	<i>Otides</i> .
Dorsal vertebræ	opisthocœlous.	heterocœlous.
Nares	impervious.	pervious.
Oil gland	present.	absent.
Nasal glands	large.	small.
Propatagialis longus muscle	present.	absent.
Cau-do-ilio-femoralis muscle with iliac head	usually present.	absent.
Digestive system	Charadriine.	Gruiue.

From the *Charadrii* the *Ædicnemi* differ in absence of basipterygoid processes and occipital foramina, holorhinal nostrils, and overlapping coracoids.

Family *ÆDICNEMIDÆ*.

THE THICK-KNEES.

=*Ædicneminæ* GRAY, List Gen. Birds, 1840, 64.

=*Ædicnemidæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, viii, 142.—SCLATER, Ibis, 1880, 408.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108.—STEJNEGER, Standard Nat. Hist., iv, 1885, 112, in text.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, ix, 2; Hand-list, i, 1899, xvi, 172.—BEDDARD, Struct. and Classif. Birds, 1898, 345.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 338.—KNOWLTON, Birds of the World, 1909, 49, 380.

=*Ædicnemidæ* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1223.

=*Ædicnemididæ* GADOW, Classif. Vertebr., 1898, 35.

=*Burhinidæ* MATHEWS, Birds of Australia, iii, pt. 4, Dec. 31, 1913, 342.

Genus *ÆDICNEMUS* Temminck.

Ædicnemus TEMMINCK, Man. d' Orn., 1815, 321. (Type, by tautonymy, *Charadrius ædicnemus* Linnæus.)

Fedoa LEACH, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 28. (Type, *Charadrius ædicnemus* Linnæus.)

Very large terrestrial Limicolæ (wing 205-273 in American species) with nostril in anterior portion of the broad nasal fossæ, tarsus two and a half to nearly three times as long as middle toe without claw and covered all round with hexagonal scales, hallux absent, tail half as long as wing and graduated, and the plumage conspicuously streaked with pale buffy brown and dusky.

Bill shorter than head, moderately stout to very stout, its depth at anterior end of nostril equal to or a little less than one-fourth (*Æ. ædicnemus*) to more than one-fourth (*Æ. bistriatus* and *Æ. dominicensis*) the length of exposed culmen, the latter about as long as middle toe with claw, straight and inclined downward anteriorly as far as anterior end of nostril, then slight convex; gonys shorter than mandibular rami, much shorter than distance from tip of maxilla to anterior end of nostril, faintly convex, ascending terminally; nasal fossæ broad, occupied by membranous integument, the nostrils in lower anterior portion, longitudinal and narrow, or slit-like (in *Æ. ædicnemus*), or slightly oblique and rather broadly oval (in *Æ. bistriatus* and *Æ. dominicensis*); malar and frontal antia on same vertical line, but mental antia much anterior to them, about on line with posterior end of nostril. Wing moderate, rather pointed, the longest primaries exceeding distal secondaries by much less than half the length of wing (*Æ. bistriatus* and *Æ. dominicensis*) to nearly half its length (*Æ. ædicnemus*); three outer primaries longest and subequal (*Æ. bistriatus* and *Æ. dominicensis*) or the outermost longest (*Æ. ædicnemus*). Tail about half as long as wing, graduated for more than one-fifth its length (*Æ. bistriatus* and *Æ. dominicensis*) or less than one-fifth (*Æ. ædicnemus*). Tarsus more than one-third (*Æ. bistriatus* and *Æ. dominicensis*) to less than one-third (*Æ. ædicnemus*) as long as wing, two and a half (*Æ. ædicnemus*) to nearly three times (*Æ. bistriatus* and *Æ. dominicensis*) as long as middle toe without claw, covered all round with hexagonal scales, these having a regular transverse arrangement on lower part of the acrotarsium; bare portion of tibia shorter than middle toe with claw (*Æ. ædicnemus*) to decidedly longer (*Æ. bistriatus* and *Æ. dominicensis*), scaled in same manner as tarsus; outer and inner toes, successively, decidedly shorter than middle toe; hallux absent; space between outer and middle toes webbed as far as first articulation of the latter, that between inner and middle toes with a very small web at base.

Coloration.—Upper parts streaked with brownish buff or buffy brown, grayish brown and dusky; under parts of body mostly plain dull white or buffy white; tail with a blackish terminal band and one or more white subterminal bands.

Range.—Temperate and tropical portions of Europe, Asia, and Africa; tropical America, from southern Mexico to Amazonia and western Peru; island of Haiti, Greater Antilles. (About ten species, of which only three are American.)

It is probable that the American species require generic separation from *Ædicnemus* proper, since there are several marked differences in external structure, as indicated in the above description.

I have not been able to examine a specimen of the third American species, *Æ. superciliaris*, and therefore am unable to say whether it agrees in structural details with *Æ. bistriatus* and *Æ. dominicensis* or not.

KEY TO THE AMERICAN SPECIES AND SUBSPECIES OF *ÆDICNEMUS*.

- a. Auricular and postocular regions without black; upper parts without transverse vermiculations or lunulate markings.
- b. Lower breast, abdomen, etc., white; larger (wing 234-273, tail 117.5-139, tarsus 103-122). (*Ædicnemus bistriatus*.)
- c. Larger (wing 255-273, tarsus 110-122), the bill and legs stouter; chest more grayish, with mesial streaks indistinct or absent. (Southern Mexico to western Costa Rica.).....*Ædicnemus bistriatus bistriatus* (p. 20).
- cc. Smaller (wing 234-246, tarsus 103-107), the bill and legs more slender; chest brownish buffy, with mesial streaks distinct. (Venezuela to Amazon Valley.).....*Ædicnemus bistriatus vocifer* (extralimital).^a
- bb. Lower breast, abdomen, etc., light creamy buff; smaller (wing 205-216, tail 104-106, tarsus 90.5-94.5) (Haiti.).....*Ædicnemus dominicensis* (p. 23)
- aa. Tip of auricular region and a postocular area black; upper parts with transverse vermiculations and lunulate markings. (Western Peru.)
Ædicnemus superciliaris (extralimital).^b

ÆDICNEMUS BISTRIATUS BISTRIATUS (Wagler).

MEXICAN THICK-KNEE.

Adults (sexes alike).—Median portion of pileum (broadly) dusky grayish brown or fuscous, streaked with pinkish buff or pale grayish

- ^a (?) *Æ [dicnemus] vocifer* L' Herminier, Mag. de Zool., 1837, cl. ii, not. 84, pl. 84 (p. 1) (Maturin, Colombia).—*Ædicnemus americanus* Swainson, Anim. in Menag., 1838, 349 (interior of Guiana).—*Ædicnemus bistriatus* (not *Charadrius bistriatus* Wagler) Gray, List Birds Brit. Mus., Grallæ, 1844, 59 (Brit. Guiana); Berlepsch, Ibis, 1884, 440 (Angostura, Venezuela); Salvin, Ibis, 1886, 177 (Brit. Guiana); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 12, part (Bogota, Colombia; Venezuela; Annai, Brit. Guiana; Forte de Rio Branco, Brazil); Robinson, Proc. U. S. Nat. Mus., xviii, 1896, 656 (Margarita I., Venezuela); Salvin and Godman, Biol. Centr.-Am., Aves, iii, 1903, 339, part (Colombia; Venezuela; Guiana; Amazonas).—[*Ædicnemus*] *bistriatus* Sclater and Salvin, Nom. Av. Neotr., 1873, 142, part (Colombia; Venezuela; Guiana); Sharpe, Hand-list, i, 1899, 172, part (Colombia; Guiana; Amazonas).—*Oedicnemus bistriatus* Schlegel, Mus. Pays-Bas, iv., no. 29, 1865, 19, part (Rio Branco, Brazil); Berlepsch and Hartert, Novit. Zool., ix, 1902, 128 (Caicara, Orinoco Valley); Beebe, Zoologica, i, 1909, 75 (La Brea, n. e. Venezuela).—[*Ædicnemus*] *bistriatus* Cabanis, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 749.

- ^b *Oe[dicnemus] superciliaris* Tschudi, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 309 (Peru).—*Oedicnemus superciliaris* Tschudi, Wiegmann's Archiv für Naturg., ix, pt. 1, 1843, 387 (Pacific coast of Peru).—*Ædicnemus superciliaris* Sclater and Salvin, Exotic Orn., 1867, 59, pl. 30; Proc. Zool. Soc. Lond., 1868, 176 (Tambo Valley, w. Peru; crit.); 1868, 570 (w. Peru); Taczanowski, Orn. du Pérou, iii, 1886, 333; Seebohm, Geog. Distr. Charadriidæ, 1887, xv, 87, fig.; Berlepsch and Stolzmann, Proc. Zool. Soc. Lond., 1892, 395 (Ica and Lima, Peru); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 14 (Lima, etc., Peru).—*Ædicnemus superciliaris* Sclater and Salvin, Nom. Av. Neotr., 1873, 142.

buff (on edges of feathers); sides of crown, occiput, and nape uniform dull black, forming two broad stripes extending from forehead to nape, where they sometimes unite; immediately beneath this blackish stripe a superciliary stripe of immaculate dull white, extending from lores over eye to end of auricular region; forehead, loreal, suborbital, and malar regions dull buffy or brownish white, narrowly streaked with dusky, the auricular region more brownish buffy and more narrowly as well as less distinctly streaked; neck (all round) dull brownish buffy, rather narrowly streaked with dusky or fuscous; chin and throat immaculate dull white or buffy white; chest pale drab-gray or pale smoke gray, the feathers with very narrow shaft-streaks of dusky and very indistinctly margined with pale buffy; rest of under parts immaculate white, passing into buff on under tail-coverts; back, scapulars, tertials, rump, and upper tail-coverts deep grayish brown (fuscous), the feathers more or less broadly edged with buff or pinkish buff; wing-coverts pale grayish brown or brownish gray, rather broadly margined with buff (more or less deep), and with narrow shaft-streaks of black; remiges dusky brownish gray, the second to fifth primaries, inclusive (from outside), with basal portion extensively white, the three outermost with inner webs wholly white subterminally, and broadly white along edge toward base, the next with inner web white for outer half (except terminally), the next with inner web wholly white, except terminally; middle pair of rectrices brownish gray, usually with a more or less distinct subterminal spot of dull whitish or dull pale buffy, the tip more or less dusky; other rectrices white, broadly tipped with dull black or brownish black and broadly barred or banded with brownish gray; bill black, the rictus and basal half of mandible horn color or greenish; eyelids and iris yellow; legs and feet pale horn color or olive-greenish (olive-yellow or greenish yellow in life).

Young.—Similar to adults, but upper parts somewhat mottled and edgings to feathers more rufescent or cinnamomeous. (Not seen.)

Downy young.—Above light buffy grayish (light to pale drab), finely and rather indistinctly barred with black; a black bar (more or less interrupted) across forepart of crown, and extending backward from middle of this a narrow median line of black; occiput with a $\diamond$ -shaped median spot of black, connected by a black line with a bar of blackish across nape; a distinct but irregular line of black along each side of dorsal region, extending from upper back to near root of tail; flanks and wings with a few irregular blotches of blackish; forehead and under parts immaculate dull brownish white or buffy white.

Adult male.—Wing 261–273 (267.5); tail, 132–139 (134.1); exposed culmen, 49–53 (51.1); tarsus, 113–121 (116.5); middle toe, 38–45 (41.9).^a

Adult female.—Wing, 255–269 (262); tail, 124–132 (128.4); exposed culmen, 44–53.5 (49.5); tarsus, 110–122 (116.4); middle toe, 38–43 (40.5).^b

Southern Mexico, in States of Vera Cruz (Misantla; Tlalcotalpám; Pasa Nueva), Oaxaca (Tapana; Huilótepec; Ishuatán), and Chiapas (Tonalá), and southward through Guatemala (San Gerónimo; Huamuchál), Honduras (La Brea; Nacaome; plain of Comayagua) and Nicaragua (Sucuyá; Jalapa; San Juan del Norte) to western Costa Rica (Guanacaste; San José):

Charadrius bistriatus WAGLER, Isis, 1829, 648 (Mexico).

[Edicnemus] bistriatus GRAY, Gen. Birds, iii, 1844, 535.

[Edicnemus] bistriatus BONAPARTE, Compt. Rend., xliii, 1856, 416.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142, part (Mexico; Central America).—SHARPE, Hand-list, i, 1899, 172 part (Central America).—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 59, part (Guatemala).

Edicnemus bistriatus OWEN, Ibis, 1861, 68 (San Geronimo, Guatemala; descr. eggs).—SALVIN, Ibis, 1861, 356 (Vera Paz, Guatemala); 1865, 198 (Huamuchal, Guatemala).—SCLATER, Proc. Zool. Soc. Lond., 1865, 397 (Vera Cruz, Mexico).—SCLATER and SALVIN, Exotic Orn., 1867, 60, part (Mexico; Guatemala; Honduras).—SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xv, 85,

^a Six specimens.

^b Four specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from southern Mexico.....	267.2	133	52.1	114.2	42.1
One adult male from central Guatemala.....	263	133.5	49	121	38
One adult male from northern Nicaragua.....	273	139	49	121	45
One adult male from Venezuela (<i>Æ. b. vocifer</i>).....	246	124	44.5	103	33
Two adult males from Amazonas (Sierra de Lua and Boa Vista) (<i>Æ. b. vocifer</i>).....	235.5	120	44.7	106	35.5
FEMALES.					
Three adult females from southern Mexico.....	262.3	128.3	47.5	114.5	39.8
One adult female from northern Nicaragua.....	261	128.5	53.5	122	42.5
One adult female from Amazonas (Sierra de Lua) (<i>Æ. b. vocifer</i>).....	246	128	48	107	38
Three adult females of <i>Æ. dominicensis</i> from Santo Domingo...	210	104.3	42.2	92.3	35.8

Besides having the tarsus much longer (both relatively and absolutely) Central American specimens have the upper parts more broadly striped with a more cinnamonaceous or avellaneous hue, in this respect resembling South American examples (*Æ. b. vocifer*), but in the color of the chest they agree better with Mexican specimens. It will probably be necessary to separate the Central American representatives of the species subspecifically, but a larger series of specimens should first be examined.

- fig., part (Mexico, southwards).—ZELEDÓN, Anal. Mus. Nac. C. R., i, 1888, 129 (Costa Rica).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 12, part (Misantla, Vera Cruz; "Torula" ie. Tonala, Chiapas; Huamuchal and San Geronimo, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 339, part (Misantla, Vera Cruz; Tapana, Oaxaca; Tonala, Chiapas; Huamuchal and San Geronimo, Guatemala; Honduras; Sucuya and San Juan del Norte, Nicaragua; San José, Costa Rica; Panama ? ^a).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 424 (Costa Rica).
- Oedicnemus bistriatus* FRANTZIUS, Journ. für Orn., 1869, 378 (Costa Rica).
- Oedicnemus bistriatus* NUTTING, Proc. U. S. Nat. Mus., vi, 1884, 389 (Sucuya, Nicaragua; habits).
- Oedicnemus* ———? TAYLOR, Ibis, 1860, 314 (La Brea, Nacame, and plain of Comayagua, Honduras; fresh colors of unfeathered parts).

OEDICNEMUS DOMINICENSIS Cory.

HAITIAN THICK-KNEE.

Similar to *O. bistriatus* but much smaller, bill and legs much more slender, and under parts distinctly buffy.

Adult female.^b—Crown, occiput, and nape streaked medially with blackish and pale grayish buffy brown, passing into uniform dull black laterally, this producing two conspicuous stripes, extending from above, or slightly anterior to, eyes to hindneck; immediately beneath this blackish stripe a broad one of pale brownish buff, extending from lores and sides of forehead over eyes and auricular region to beyond end of the latter; hindneck light buffy grayish brown with narrow dusky shaft-streaks; back and scapulars deep grayish brown (nearly hair brown), the feathers edged or margined, rather broadly, with pale brownish buffy and with narrow shaft-streaks of black; wing-coverts pale brownish gray, broadly margined with pale buffy and with distinct shaft-streaks of black; primary coverts and remiges (except tertials) dusky, the second to fourth primaries, inclusive (from inside), with basal portion of outer web abruptly immaculate white; rump similar in color to wing-coverts but darker; upper tail-coverts similar to rump but mesial dusky streaks broader and with indistinct paler or more buffy subterminal spots or broad, interrupted bars; middle rectrices brownish gray or grayish brown, broadly tipped with dull black and crossed by a subterminal band of light brownish buffy, this preceded by a more or less distinct irregular bar of dusky; outermost rectrices buffy or brownish white, broadly and abruptly tipped with black (more extensively on outer web), the white portion with rather distinct irregular bars of dusky (on both webs)—the intermediate rectrices intermediate in coloration between the middle and outermost pairs; sides of head and neck, foreneck, and chest pale brownish buffy, passing into a

^a Panamá specimens (which I have not seen) may be referable to the South American form.

^b Males not seen.

slightly more grayish (nearly light drab-gray) color on upper breast, with narrow but distinct shaft-streaks of dusky, these crowded beneath eyes so as to form an indistinct dusky suborbital area; chin, throat, lower breast, sides, flanks, abdomen, and anal region immaculate pale pinkish buff, deepening into deep pinkish buff on under tail-coverts; axillars and under wing-coverts immaculate buffy white; inner webs of primaries (except distal portion) largely buffy white, this occupying much the greater part of inner web on outermost quill; bill black, the basal half, or more, of mandible paler (greenish in life); iris yellow; legs and feet dusky (in dried skins), greenish yellow in life; wing, 205-216 (210); tail, 104-106 (104.3); exposed culmen, 40.5-44 (42.2); tarsus, 90.5-94.5 (92.3); middle toe, 35.5-36 (35.8).^a

Island of Haiti, Greater Antilles (Las Vegas and Almacén, Santo Domingo).

Edicnemus dominicensis CORY, Journ. Boston Zool. Soc., ii, Oct., 1883, 46 (La Vega, Santo Domingo; coll. C. B. Cory—type now in coll. Field Mus. Nat. Hist.); Auk, i, 1884, 4 (reprint of orig. descr.); iv, 1887, 226 (redescribed); Birds Haiti and San Dom., 1885, 140, pl. [19]; Cat. West Ind. Birds, 1892, 9, 95, 131.—THOMPSON, Auk, ii, 1885, 110 (voice).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 14 (descr.; crit.).—CHERRIE, Contr. Orn. San Dom., 1896, 25.—CHRISTY, Ibis, 1897, 337 (Almacén, Santo Domingo; habits; voice).—VERBIL (A. E. and A. H.), Proc. Acad. Nat. Sci. Phila., 1909, 356 (habits).

[*Edicnemus*] *dominicensis* CORY, List Birds West Ind., revised ed., 1886, 25.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 59.—SHARPE, Hand-list, i, 1899, 172.

Oedicnemus dominicensis REICHENOW and SCHALOW, Journ. für Orn., 1885, 454 (reprint of orig. descr.).

Edicnemus bistriatus dominicensis SEEBOHM, Geogr. Distr. Charadriidæ, 1887, pp. xv, 86.

Superfamily CHARADRII.

=*Charadriidæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, viii, 142.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, ix, 90; Hand-list, i, 1899, xv, 146.—GADOW, Classif. Vertebr., 1898, 35.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 344.—KNOWLTON, Birds of the World, 1909, 49, 351.

<*Charadriidæ* STEJNEGER, Standard Nat. Hist., iv, 1885, 98, in text (*Charadriidæ* + *Aphrizidæ* + *Arenariidæ* + *Hæmatopodidæ*).

=*Charadrii* SHARPE, Review Rec. At. Classif. Birds, 1891, 93; Hand-list, i, 1899, xv, 146.

<*Scolopacidæ* SCLATER and SALVIN, Nom. Av. Neotr., 1873, viii, 144 (*Scolopacidæ* + *Phalaropodidæ* + *Recurvirostridæ*).—STEJNEGER, Standard Nat. Hist., iv, 1885, 105, in text (*Scolopacidæ* + *Phalaropodidæ* + *Recurvirostridæ*).

<*Scolopacidae* CARUS, Handb. Zool., i, 1868, 334 (*Scolopacidæ* + *Phalaropodidæ* + *Recurvirostridæ* + *Dromadidæ*).

=*Limicolæ* FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1220.

=*Scolopacinae* NITZSCH, Meckel's Deutsches Archiv Phys., —, 1820, 259.

>*Charadriidæ* BONAPARTE, Saggio distr. Anim. Vertebr., 1831, 56 (includes *Otides*, *Edicnemi* and *Glareolæ*).

^a Three specimens.

Limicolæ with supraorbital grooves and occipital foramina present; coracoids separated; hallux (if present) small and elevated, often absent; anterior toes and claws of moderate length or relatively short, and rectices, 12 or more.

KEY TO THE FAMILIES OF CHARADRII.

- a. Bill either much shorter than head or relatively stout (never subulate, more or less compressed, usually more or less swollen distally anterior to the more or less constricted middle or subbasal portion, or if not thus swollen and constricted the bill subcuneate in lateral profile (Arenariidæ); nasal fossæ rounded and relatively broad at anterior end.
- b. Bill much longer than tarsus, excessively compressed distally, much deeper than wide throughout, deepest in middle or posterior to the middle portion, the upper and lower outlines converging subbasally; tip of both maxilla and mandible broad (rounded or subtruncate) in lateral profile; gonys more than twice as long as mandibular rami. (Thigh-muscle formula ABXY.)
Hæmatopodidæ (p. 26).
- bb. Bill shorter than tarsus, not distinctly (if at all) compressed distally, not much deeper than wide, deepest either anterior to middle portion or (in Arenariidæ) at extreme base, the upper and lower outlines converging for basal half or more or (in Arenariidæ) not at all converging; gonys not twice as long as mandibular rami.
- c. Hallux well developed (as long as basal phalanx of outer toe); acrotarsium distinctly and regularly transversely scutellate.
- d. Bill subcuneate in lateral profile (not swollen terminally nor contracted in middle portion); planta tarsi transversely scutellate; toes more slender, without distinct lateral pads; tail slightly rounded. (Thigh-muscle formula AXY.).....Arenariidæ (p. 42)
- dd. Bill plover-like (swollen terminally, contracted in middle portion); planta tarsi reticulate (covered with small roundish or hexagonal scales); toes stouter, with conspicuous tumid lateral pads; tail emarginate. (Thigh-muscle formula —?).....Aphrididæ (p. 57).
- cc. Hallux usually absent, if present very small (much shorter than basal phalanx of outer toe), acrotarsium not regularly transversely scutellate, usually reticulate, or covered with rather small hexagonal scales. (Thigh-muscle formula ABXY.).....Charadriidæ (p. 61).
- aa. Bill variable as to length but not swollen distally, not contracted in middle or subbasally, not cuneate in lateral profile; nasal fossæ narrow and pointed at anterior end.
- b. Tarsus less than twice as long as middle toe with claw, the acrotarsium (usually planta tarsi also)^a regularly transversely scutellate; naked portion of tibia shorter than middle toe with claw (whole of tibia sometimes feathered).
- c. Toes without a distinct lateral membrane; tarsus not unusually compressed; plumage of under parts not dense (gull-like).....Scelopodidæ (p. 143).
- cc. Toes with a conspicuous lateral membrane, sometimes developed into broad scalloped lobes; tarsus excessively compressed; plumage of under parts very dense, gull-like.....Phalaropodidæ (p. 416).
- bb. Tarsus more than twice as long as middle toe with claw, wholly reticulate (covered all round with small hexagonal scales); bare portion of tibia much longer than middle toe with claw. (Plumage of under parts as in Phalaropodidæ).....Recurvirostridæ (p. 435)

^a The only exceptions to the transversely scutellate planta tarsi are the genera *Numenius*, *Phaeopus* and *Mesoscolopax* (part.)

Family HÆMATOPODIDÆ.

THE OYSTER-CATCHERS.

Hæmatopis GRAY, List Gen. Birds, 1840, 65.

Hæmatopodina GRAY, List Gen. Birds, ed. 2, 1841, 85.

Hæmatopidæ SELYS, Faune Belge, 1842, 278.

> *Hæmatopodidæ* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 688, 689 (includes *Arenariidæ*).—COUES, Key N. Am. Birds, 1872, 246; 2d ed., 1884, 606 (includes *Arenariidæ*).

= *Hæmatopodidæ* RIDGWAY, Proc. U. S. Nat. Mus., i, 1880, 239.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 107, 108.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 165; 3d ed., 1910, 132.—SHARPE, Review Rec. Att. Classif. Birds, 1891, 73.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.

> *Hæmatopodidæ* CARUS, Handb. Zool., i, 1868, 337 (includes *Arenariidæ*).

= *Hæmatopodina* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143.—COUES, Key N. Am. Birds, 2d ed., 1884, 606.—STEJNEGER, Standard Nat. Hist., iv, 1885, 99, in text.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, ix, 90, 105; Hand-list, i, 1899, xv, 147.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 346.

Very large, heavily-built Charadrii with bill much longer than tarsus, excessively compressed distally, much deeper than wide throughout (except at extreme base), deepest in middle or posterior to middle portion, the tip broad (rounded or subtruncate) in lateral profile, the gonys more than twice as long as mandibular rami; legs and feet very stout, the tarsus covered, all round, with small hexagonal scales; hallux entirely absent; toes thick and relatively short, with transverse scutella on distal half only, sometimes confined to terminal phalanges; a web between outer and middle toes, extending as far as end of basal phalanx of the latter, the space between inner and middle toes with a much smaller basal web; thigh-muscle formula ABXY (as in Charadriidæ); skull with supra-orbital grooves very large.

The *Hæmatopodidæ* frequent the sea-shores of nearly all parts of the world but are absent from the Polar regions. They feed upon mollusks and other marine life thrown upon the beach by the surf.

Only about a dozen species and subspecies are known, belonging to a single genus, seven of them being American.

Genus HÆMATOPUS Linnæus.

Hæmatopus LINNÆUS, Syst. Nat., ed. 10, i, 1758, 152; ed. 12, i, 1766, 257. (Type, by monotypy, *H. ostralegus* Linnæus.)

Ostralega BRISSON, Orn., v, 1760, 38. (Type, by tautonymy, "*Ostralega*" = *Hæmatopus ostralegus* Linnæus.)

Ostrelaga (emendation) BONNATERRE, Tabl. Encycl. Méth., i, 1791, lxxxiii.

Ostralegus (emendation) MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 58.

Melanibyz REICHENBACH, Handb. Nat. Syst. Vög., 1852, p. xii. (Type, *Hæmatopus moquini* Bonaparte.)

Prohæmatopus^a MATHEWS, Birds Australia, iii, pt. 1, April 2, 1913, 12. (Type, by monotypy, *Hæmatopus quoyi* Brabourne and Chubb.)

^a Πρό, before + *Hæmatopus* (αἷμα (αἷματ-), blood; πούς, foot). (Mathews.)

Very large, stoutly-built Charadrii (wing 237-280 mm.) with bill longer than tarsus, compressed distally, the tip truncate or subtruncate (in lateral profile); tarsi covered, all round, with small hexagonal scales, and basal portion of both interdigital spaces distinctly webbed.

Bill decidedly longer than tarsus, sometimes very slightly upturned for terminal half (though usually straight), more or less compressed, except basally, its depth at gonydeal angle equal to one and a half times to more than twice its width at same point; culmen more than one-fourth to very nearly one-third as long as wing, nearly straight, the basal portion (mesorhinium) more or less ascending basally; maxillary tomium nearly straight, sometimes faintly convex, the tip of maxilla (in lateral profile) rounded or truncate; mandibular tomium nearly straight (sometimes faintly concave distally), the gonys sometimes straight, sometimes faintly but distinctly convex, its base usually more or less prominent, sometimes forming a distinct angle; tip of mandible (in lateral profile) obtusely pointed to nearly truncate; maxilla with a broad, shallow lateral groove, extending sometimes to half way between loreal feathering and tip, but usually much less, the proximal portion (nasal fossa) occupied by membrane, in the lower edge of which is placed the narrow, longitudinal, subbasal nostril. Wing long and pointed, the longest primaries extending decidedly beyond tips of longest tertials; outermost primary longest or, rarely, the two outermost longest and of equal length. Tail between one-third and one-half as long as wing, truncate or very slightly rounded; rectrices twelve. Tarsus stout, a little shorter than length of maxilla from nostril, covered all round with small hexagonal scales; middle toe, without claw, decidedly more than half to nearly three-fourths as long as tarsus, the lateral toes decidedly shorter, the inner shorter than the outer; hallux entirely absent; anterior toes with a well-developed thick and rough lateral membrane, the basal portion of interdigital spaces distinctly webbed, the web between middle and outer toes extending sometimes to second articulation of middle toe, that between middle and inner toes much smaller, sometimes very slightly developed.

Coloration.—Plumage particolored or pied (black and white or black, grayish brown and white, in large sharply contrasting areas) or wholly black or dark sooty brown; bill and naked eye-ring brightly colored (red, orange, or yellow) in life.

Range.—Seacoasts nearly throughout the world. (About fourteen species and subspecies.)

KEY TO THE AMERICAN SPECIES AND SUBSPECIES OF *HÆMATOPUS*.

- a. Plumage parti-colored or pied (under parts of body white, and with white on wings and tail).
- b. Entire rump and lower back white. (*Hæmatopus ostralegus*.)

- c. Fourth primary (from outside) with white on outer web, adjoining white shaft-streak, the second and third primaries sometimes similarly marked; upper tail-coverts wholly white; bill averaging decidedly shorter. (Europe and western Asia, south in winter to Egypt, northeastern India, etc.; occasional in Greenland.).....*Hæmatopus ostralegus ostralegus*. (p. 30).
- cc. Fourth primary (from outside) as well as second and third, without white on outer web; upper tail-coverts tipped with black; bill averaging much longer. (Eastern Siberia and Kamchatka, south in winter to China, Burma, etc.)
Hæmatopus ostralegus osculans (extralimital).^a
- bb. Entire rump and lower back grayish brown or black, concolor with back, etc.
- c. Back, scapulars, etc., grayish brown to dark sooty brown; breast white, like abdomen, etc., or at least not uniform black; bill stouter, its greatest depth more than 10 mm.
- d. Bill much larger (exposed culmen 70-104); upper tail-coverts mostly (or at least in large part) white; greater wing-coverts more broadly tipped with white (sometimes whole of exposed portion white); axillars immaculate white; legs and feet flesh color (in life). (*Hæmatopus palliatus*.)
- e. Back, scapulars, etc., much lighter grayish brown, in strong contrast with black of head and neck; upper tail-coverts and under primary coverts almost entirely white; innermost primaries partly white; greater wing-coverts with whole of exposed portion white; tail with basal half or more white; breast always immaculate white.
- f. Smaller, with relatively more slender bill; averaging: adult male, wing, 253.4; tail, 98.2; culmen, 81.1; greatest depth of bill, 13.4; tarsus, 56.1; middle toe, 40.1; adult female: wing, 260.2; tail, 102.4; culmen, 88.6; greatest depth of bill, 13.6; tarsus, 55.6; middle toe, 40.8. (Atlantic and Gulf coasts of United States and Mexico; Atlantic coast of Central and South America?).....*Hæmatopus palliatus palliatus* (p. 32).
- ff. Larger, with relatively stouter bill; averaging: adult male, wing, 257; tail, 103.5; culmen, 85.3; greatest depth of bill, 14.3; tarsus, 57.5; middle toe, 43.3; adult female, wing, 261.4; tail, 105.2; culmen, 94.4; greatest depth of bill, 14; tarsus, 59.5; middle toe, 41.7. (Bahama Islands.).....*Hæmatopus palliatus prattii* (p. 37).
- ee. Back, scapulars, etc., darker grayish brown (deep sooty brown to almost sooty black), much less strongly contrasted with black of head and neck; upper tail-coverts and under primary coverts largely dusky grayish brown; innermost primaries without any white (on outer webs); greater wing-coverts with exposed portion dark grayish brown anteriorly; tail with less than basal half white; breast more or less spotted or blotched with sooty blackish.
- f. Larger, with shorter middle toe; averaging: adult male, wing, 259.1; tail, 101.8; culmen, 75.9; greatest depth of bill, 13.8; tarsus, 53.2; middle toe, 39.2; adult female, wing, 264.3; tail, 104.9; culmen, 83.5; greatest depth of bill, 13; tarsus, 55.7; middle toe, 40.3; color of back, etc., averaging lighter, white on wing more extended, and under tail-coverts partly dusky. (Pacific coast of Mexico; also, Pacific coast of Central and South America, as far as Chile?).

Hæmatopus palliatus fraseri (p. 37.)

^a *Hæmatopus hypoleuca*, part, Pallas, Zoogr. Rosso-Asiat., ii, 1826, 129 (Kamchatka; Kuril Islands).—*Hæmatopus ostralegus* (not of Linnæus) of authors (citations from n. e. Asia).—(?)*Hæmatopus ostralegus* Schallow, Journ. für Orn., 1891, 258 (Sitka and Unalaska, Alaska).—*Hæmatopus osculans* Swinhoe, Proc. Zool. Soc. Lond., 1871, 405 (Talien Bay, China); Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 100 (Kamchatka); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 111.—*H[æmatopus] ostralegus osculans* Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 100, in text.—*Hæmatopus ostralegus osculans* Mathews, Birds Australia, iii, pt. i, 1913, 21.

- ff.* Smaller, with longer middle toe; averaging: adult male: wing, 250.9; tail, 97.1; culmen, 82.1; greatest depth of bill, 12.2; tarsus, 51.7; middle toe, 42.1; adult female, wing, 253.5; tail, 97.7; culmen, 82; greatest depth of bill, 12.7; tarsus, 52.5; middle toe, 43.4; color of back, etc., averaging darker, white on wings more restricted, and under tail-coverts wholly white. (Galapagos Islands.)

Hæmatopus palliatus galapagensis (p. 39).

- dd.* Bill much smaller (exposed culmen 64.8 mm.); upper tail-coverts wholly dusky; greater wing-coverts more narrowly tipped with white; axillars mottled with grayish brown; legs and feet grayish yellow (in life). (Coast of Patagonia.) *Hæmatopus durnfordi* ^a (extralimital).

- cc.* Back, scapulars, etc., deep blue-black, like head and neck; breast uniform blue-black; bill very slender, its greatest depth less than 10 (9-9.5 mm.). (Falkland Islands and coasts and islands of Straits of Magellan.)

Hæmatopus leucopodus (extralimital).^b

- aa.* Plumage unicolored (wholly black or sooty); no white on wings or tail.

- b.* Averaging smaller, with much narrower and less compressed bill (greatest depth 12-14 mm.); breast dark sooty brown, like abdomen, etc.; legs and feet fleshy white and iris yellow in life. (Pacific coast of North America, from Lower California to Alaska.) *Hæmatopus bachmani* (p. 40).

- bb.* Averaging larger, with much deeper and more compressed bill (greatest depth 15-16.5 mm.); breast black, like head and neck; legs and feet greenish yellow and iris dark orange in life. (Pacific coast of South America from Peru southward, and shores and islands of Straits of Magellan to Falkland Islands.) *Hæmatopus ater* (extralimital).^c

^a *Hæmatopus palliatus* (not of Temminck) Durnford, Ibis, 1878, 403 (Tambo Point, mouth of Chupat River, Patagonia, breeding); Sclater and Hudson, Orn. Argent., ii, 1889, 176 (Tambo Point).—*Hæmatopus durnfordi* Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 117, pl. 6 (Tambo Point, Patagonia; coll. Brit. Mus.)

I have not seen this form which, notwithstanding the statement that the color of the legs and feet is greenish yellow in life, seems to be very closely related to *H. palliatus frazari* and *H. p. galapagensis*, and therefore possibly a subspecies of *H. palliatus*. It agrees with the subspecies mentioned in dark-colored upper parts, spotted breast, and restriction of white on wings, but has the last mentioned character more pronounced than in either of the others.

^b *Hæmatopus leucopodus* Garnot, Ann. des Sci. Nat. vii, 1826, 47 (Falkland Islands).—*H[æmatopus] leucopodus* Ridgway, Man. N. Am. Birds, 1887, 182.—*Ostralega leucopus* Garnot and Lesson, Voy. Coquille, i, 1828, 721.—*Hæmatopus leucopus* Gray, List Birds Brit. Mus., Grallæ, 1844, 72 (Tierra del Fuego); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 113, 730.—*Hæmatopus luctuosus* Cuvier, Règne Anim., ed. 2, i, 1829, 504.—*Hæmatopus arcticus* Jardine, ed. Wilson's Am. Orn., iii, 1832, 35, pl. 64, fig. 2; Jardine and Selby, Illustr. Orn., 1833, pl. 125.

^c *Hæmatopus ater* Vieillot, Gal. Ois., ii, 1825, 88, pl. 230 (Straits of Magellan); Cassin, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 700; Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 121, 731.—*Ostralega atra* Lesson, Traité d'Orn., 1831, 548.—*Hæmatopus niger ater* Baird, Brewer and Ridgway, Water Birds N. Am., i, 1884, 109, footnote.—[*Melanibyr*] *ater* Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 337.—*Hæmatopus townsendi* Audubon, Birds Am., fol. ed., iii, 1830, pl. 427, fig. 3.—*Hæmatopus townsendi* Audubon, Orn. Biog., v. 1839, 247 ("coast of Oregon"; type now in coll. U. S. Nat. Mus.). Birds Am., 8vo. ed., v. 1842, 245, pl. 326.

HÆMATOPUS OSTRALEGUS OSTRALEGUS Linnaeus.**OYSTER-CATCHER.**

Adults (sexes alike).—Head, neck, chest, wings, and terminal portion of tail plain black, the head and neck tinged with slaty in certain lights, the wings and tail slightly brownish; lower back, rump, upper tail-coverts, basal portion of tail, greater wing-coverts, and under parts of body immaculate white; throat sometimes with a white transverse band, and, more rarely, there are other white markings about the head,^a bill (in life) “vermilion, tinged with yellow as far as the end of the nasal groove, the attenuated part dull yellow;”^b iris crimson; naked eyelids vermilion red; legs and feet “pale lake or purplish red.”^b

Young.—Similar to adults but the darker portions more brownish, the feathers of back, wings, etc., with rusty margins, and bill dull orange-red or brownish.

Downy young.—“Clothed with down of a sandy-gray color, not much mottled with black, of which two lines run down each side of the back, with a single narrow line down the rump to the tail, and a lateral stripe along the lower flanks; the head has some irregular black stripes and patches; throat dusky black; remainder of under surface of body white, as also the edge of the wing; thighs dusky blackish.”^c

Adult male.—Wing, 250–267 (256.9); tail, 101–111 (107); culmen, 62.5–78 (69.8); greatest depth of bill, 9–11 (10); tarsus, 43.5–53.5 (48.1); middle toe, 32–37 (34.7).^d

Europe and western and central Asia, east to Yenesai River, Siberia; breeding from Arctic Circle to shores of temperate Europe, and Black and Caspian Seas; in winter southward to northern and middle Africa, shores of Red Sea, and Persian Gulf, India, northern Ceylon, etc. Occasional in southern Greenland (Julianehaab; Godthaab; Nenortalik).

[*Hæmatopus*] *ostralegus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 152 (“Oedlandiæ & Gotlandiæ”); ed. 12, i, 1766, 257.—BRÜNNICH, Orn. Bor., 1764, 57.—GMELIN, Syst. Nat., i, pt. ii, 1789, 694.—LATHAM, Index Orn., ii, 1790, 752.—TURTON, Syst. Nat., i, 1806, 419.—GRAY, Hand-list, iii, 1871, 21, no. 10057.—SHARPE, Hand-list, i, 1899, 147.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 62.

Hæmatopus *ostralegus* TEMMINCK, Cat. Syst., 1807, 175; Man. d’Orn., ii, 1820, 531.—VIEILLOR, Nouv. Dict. d’Hist. Nat., xv, 1817, 408, part.—ROUX, Orn. Prov., 1825, pl. 208.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v. 1825, 106 (crit.); Ann. Lyc. N. Y., ii, 1826, 300; Geog. and Comp. List, 1838, 46

^a Dresser (Birds of Europe, vii, 1877, 568) considers these specimens with white throat-band as representing the winter plumage; but Macgillivray (Hist. Brit. Birds, iv, 155) asserts that they are of a purely individual character, and may be found in specimens taken at any season.

^b Macgillivray, Hist. Brit. Birds, iv, 1852, 154.

^c Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 110.

^d Seven specimens. (No adult females examined.)

^e Including *Hæmatopus*.

(Europe).—WERNER, *Atlas, Coureurs*, 1827, pl. 10.—MÉNÉTRIÈS, *Cat. Rais. Cauc.*, 1832, 52.—NAUMANN, *Vög. Deutschl.*, vii, 1834, 325, pl. 181.—KAUP, *Thierr.*, ii, pt. 1, 1836, 299, fig.—GOULD, *Birds Europe*, iv, 1837, pl. 300 and text; *Birds Great Brit.*, iv, 1870, pl. 45 and text.—JERDON, *Madras Journ.*, xii, 1840, 201; *Birds India*, iii, 1864, 659.—SELYS-LONGCHAMPS, *Faune Belge*, 1842, 122.—YARRELL, *Brit. Birds*, ii, 1843, 432.—SCHLEGEL, *Rev. Crit.*, 1844, 85; *Vog. Nederl.*, 1854, pl. 219 and text; *Dier. Nederl. Vog.*, 1861, pl. 22, figs. 3, 3a; *Mus. Pays-Bas*, iv, no. 29 (Cursores), 1865, 70.—MUHLE, *Beitr. Orn. Griechenl.*, 1844, 98.—HODGSON, in *Gray's Zool. Misc.*, 1844, 86.—GRAY, *List Birds Brit. Mus.*, Grallæ, 1844, 72; *Cat. Mam. etc.*, Nepal pres. Hodgson, 1846, 133; *List Brit. Birds*, 1863, 142.—RÜPPELL, *Syst. Ueb.*, 1845, 118 (Egyptian coast and Red Sea).—HEWITSON, *Eggs Brit. Birds*, ii, 1846, 265, pl. 72.—HOLM, *Naturhist. Tidssk.*, 2d ser., ii, 1848, 486 (Faroe Islands).—BLYTH, *Cat. Birds Mus. Asiat. Soc.*, 1849, 264.—THOMPSON, *Birds Ireland*, ii, 1850, 125.—LELLJEBORG, *Naumannia*, ii, 1852, 107 (n. Russia), 114 (Tromsø, Norway).—MACGILLIVRAY, *Brit. Birds*, iv, 1852, 152.—TOBIAS, *Journ. für Orn.*, 1853, 214 (Oberlausitz, Germany).—PÄSSLER, *Journ. für Orn.*, 1853, 242 (Lapland), 306.—SCHILLING, *Journ. für Orn.*, 1853, 373 (Rügen Island, Germany).—FRITSCHE, *Journ. für Orn.*, 1853, 370; 1871, 384 (Bohemia); *Vög. Eur.*, 1870, pl. 34, fig. 9.—KJÆRBØLLING, *Orn. Danm.*, 1854, pl. 31, fig. 3.—LAYARD, *Ann. and Mag. N. H.*, xiv, 1854, 110 (Ceylon).—REINHARDT, *Journ. für Orn.*, 1854, 425, 440 (Greenland); *Ibis*, 1861, 9 (Julianehaab, Godthaab, and Nenortalik, Greenland).—HEUGLIN, *Syst. Ueb.*, 1856, 57 (Red Sea); *Orn. N.-Ost. Afr.*, ii, pt. i, 1873, 1039.—MÜLLER, *Journ. für Orn.*, 1856, 229 (Provence).—SUNDEVALL, *Svensk. Fogl.*, 1856-72, pl. 36 and text.—GIEBEL, *Vög.*, 1860, 369, fig. 662.—LINDERMAYER, *Vög. Griechenl.*, 1860, 136.—POWYS, *Ibis*, 1860, 339 (Corfu and Epirus, Greece).—GODMAN (F. and P.), *Ibis*, 1861, 86 (Bodø, Norway).—HARTLAUB, *Journ. für Orn.*, 1861, 269 (coast Somali Land).—NEWTON, in *Baring-Gould's Iceland*, 1863, 411.—WRIGHT, *Ibis*, 1864, 141 (Malta).—DROSTE, *Journ. für Orn.*, 1864, 422 (Borkum); 1869, 342 (Färøe Islands).—MORE, *Ibis*, 1865, 432 (Great Britain).—GIGLIOLI, *Ibis*, 1865, 59 (Pisa); *Avif. Ital.*, 1886, 378; *Avif. Ital.*, 1st Resoc., 1889, 580; 2d Resoc., 1890, 652; 3rd Resoc., 1891, 512.—HOLTZ, *Journ. für Orn.*, 1865, 177 (Neu Vorpommerns); 1868, 160 (Gotska-Sandön, Sweden).—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 151.—LOCHE, *Expl. Sci. Algér.*, Ois., ii, 1867, 283.—TAYLOR, *Ibis*, 1867, 69 (Suez, Egypt).—BAIRD, *Ibis*, 1867, 282 (Iceland; Greenland).—SMITH, *Ibis*, 1868, 453 (Portugal).—ELWES and BUCKLEY, *Ibis*, 1870, 330 (Gulf Salonica).—FINSCH and HARTLAUB, *Vög. Ostafrika*, 1870, 665.—SALVADORI, *Faun. Ital.*, Ucc., 1871, 207; *Elenco Ucc. Ital.*, 1886, 214.—GRAY (R.), *Birds West Scotl.*, 1871, 268.—SAUNDERS, *Ibis*, 1871, 387 (s. Spain, winter); 1884, 389 (Bidassoa River, Dec.); ed. *Yarrell's Brit. Birds*, iii, 1883, 294; *Illustr. Man. Brit. Birds*, 1889, 543.—SHELLEY, *Ibis*, 1871, 310 (Egypt); *Birds Egypt*, 1872, 243.—HARTING, *Handb. Brit. Birds*, 1872, 45.—HUME, *Stray Feath.*, i, 1873, 234 (Karachi; Mekran coast; Muscat); viii, 1879, 112.—ALSTON and HARVIE-BROWN, *Ibis*, 1873, 67 (Archangel, n. Russia).—BROOKE, *Ibis*, 1873, 338 (Sardinia).—LLOYD, *Ibis*, 1873, 416 (Kathiawar).—DURNFORD, *Ibis*, 1874, 397 (North Frisian Islands).—HANCOCK, *Birds Northumb. and Durham*, 1874, 100.—SAXBY, *Birds Shetland*, 1874, 172.—IRBY, *Orn. Straits Gibralt.*, 1875, 163; *Ibis*, 1883, 187 (Santander, Spain).—FALLON, *Ojs. Belg.*, 1875, 149.—DURNFORD and HARVIE-BROWN, *Ibis*, 1875, 420 (Transylvania).—BLANFORD, *East. Persia*, ii, 1876, 281 (Hormuz Island, Persian Gulf).—SEEBOHM and HARVIE-BROWN, *Ibis*, 1876, 290 (Ust Zylma, Russia).—DRESSER, *Birds Europe*, vii, 1877, 567, pl. 533.—

- FINSCH, Ibis, 1877, 49 (Semipalatinak); Verh. z.-b. ges. Wien, xxix, 1879, 246 (Irtisch).—TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 156 (Poland).—BUTLER, Stray Feath., v, 1877, 212 (Mandavee); Cat. Birds Sind, etc., 1879, 60 (Sind, Cutch, and Kathiawar, India); Cat. Birds S. Bombay Pres., 1880, 74 (Bombay and Ratnagiri, India).—BOGDANOW, Birds Caucas., 1879, 154; Consp. Av. Imp. Ross., 1884, 77.—VIDAL, Stray Feath., ix, 1880, 83 (s. Konkani).—LEGGE, Birds Ceylon, 1880, 987 (n. half. w. coast Ceylon).—SEEBÖHM, Ibis, 1882, 222 (Astrakhan), 380 (Archangel, n. Russia); 1883, 29 (Caucasus); 1890, 409 (Great Saltee Island); 1892, 24 (Helgoland); Hist. Brit. Birds, iii, 1885, 4; Geog. Distr. Charadriidae, 1887, pp. xxi, 301, figs.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 162.—SEVERTZOV, Ibis, 1883, 74 (Pamir-Alichur, near Boohma-Kul).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 110.—RADDE, Orn. Caucas., 1884, 44, 423 (s. w. shores of Caspian Sea and Lenkoran, breeding).—YERBURY, Ibis, 1886, 21 (Aden, Arabia).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 285; 3rd ed., 1910, p. 132.—TAIT, Ibis, 1887, 387 (Portugal).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 53.—LILFORD, Ibis, 1889, 339 (Cyprus).—BRUSINA, Motr., etc., (Orn. Croatia), 1890, 88.—TURLE, Ibis, 1891, 6 (Blasket Island, breeding).—GÄTKE, Vogelw. Helgoland, 1891, 514.—SHARPE, Ibis, 1891, 114 (Fao, Oct.).—Cat. Birds Brit. Mus., xxiv, 1896, 729.—MADARÁSZ, Ausst. Ungar. Vogelf., 1891, 104.—FRIVALDSKY, Aves Hungar., 1891, 125.—HARTERT, Ibis, 1892, 517 (e. Prussia).—BARNES, Ibis, 1893, 170 (Aden).—BLAGG, Ibis, 1893, 355 (Shetland).—BLAAUW, Notes Leyden Mus., xv, 1893, 226 (Holland).—POYNTING, Eggs Brit. Birds, pt. i, 1895, 75, pl. 18.—ELLIOT, N. Am. Shore Birds, 1895, 205, pl. 70.—Ibis, 1896, 155 (Madras, India).—PEARSON, Ibis, 1896, 212 (Russian Lapland).—PORHAM, Ibis, 1897, 102 (Yeneseisk, Siberia); 1898, 513 (Yenesei River, Siberia).—GRANT, Novit. Zool., vii, 1900, 267 (s. Arabia).—WITHERBY, Ibis, 1903, 566 (Fars, s. w. Persia).
- H[æmatopus] ostralegus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxi, 209.—GRAY, Gen. Birds, iii, 1847, 547.—NORDMANN, Journ. für Orn., 1864, 373 (Finland).
- Haematopus [lapsus] ostralegus* SALVADORI, Journ. für Orn., 1865, 285 (Sardinia).
- Haematopus ostralegus* BOIE, Journ. für Orn., 1869, 95.
- H[æmatopus] ostrilegus* COUES, Key N. Am. Birds, 2d ed., 1884, 606.
- Haematopus ostrilegus* COUES, Check List, 2nd ed., 1882, no. 595.
- Haematopus astralegus* KJÆRBØLLING, Naumannia, i, 1850, 46 (Denmark).
- Scolopax pica* SCOPOLI, Ann. I. Hist. Nat., 1769, 95.
- Ostralega pica* BONNATERRE, Tabl. Enc. Méth., i, 1790, 26.
- Ostralega europæa* LESSON, Man. d'Orn., ii, 1828, 300; Traité d'Orn., 1831, 548.
- Haematopus balthicus* BREHM, Vög. Deutschl., 1831, 562 (Baltic Sea coast).
- Ostralegus vulgaris* LESSON, Rev. Zool., 1839, 47 (*nomen nudum*).
- Ostralegus hæmatopus* MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 59 (Great Britain).
- [?] *Hæmatopus macrorhynchus* BLYTH, Journ. Asiat. Soc. Bengal, xiv, 1845, 549 (India).

HÆMATOPUS PALLIATUS PALLIATUS Temminck.

AMERICAN OYSTER-CATCHER.

Adults (sexes alike).—Head, neck and upper chest uniform black, with very faint gloss of bluish green; a white bar or streak immediately beneath lower eyelid; back, scapulars, rump, median-anterior upper tail-coverts and greater part of wings plain grayish brown or brownish gray (nearly hair brown or deep drab); tips of middle wing-coverts (broadly), whole of exposed portion of greater coverts,

and proximal secondaries (next to tertials) immaculate white; distal secondaries deep brownish gray, their inner webs and basal portion of outer webs white, the outer webs edged with white distally; primary coverts and primaries dull black or dusky (fuscous-black to dark chestnut drab); lateral and terminal upper tail-coverts white, the latter sometimes (rarely) with a few dusky spots or blotches, the median anterior coverts sometimes margined with white; tail deep brownish gray, becoming darker (sometimes nearly black) distally, the lateral rectrices with basal half or more white; under parts of body, including lower chest, axillars, and under wing-coverts, immaculate white, the under primary coverts sometimes more or less broadly tipped with brownish gray, and the carpo-metacarpal region with more or less of dusky spotting; bill (in life) vermilion red, deeper (tinged with carmine) in middle portion, the basal portion more orange-red, the tip yellowish; naked eyelids vermilion red; iris bright yellow; legs and feet very pale flesh color or pinkish white.

Young.—Head and neck dull black or dusky, the pileum and cheeks speckled with dull fulvous, and the feathers surrounding base of bill whitish; upper parts grayish brown, each feather rather broadly margined with dull buffy or fulvous; otherwise much like adults, but upper tail-coverts tipped with buff, bill brownish, iris brown, and feet dull livid grayish.

Downy young.—Head and neck dull light brownish gray or buffy gray, finely mottled with darker, and with a narrow postocular line of black; rest of upper parts light buffy gray, finely mottled with darker, and relieved by two narrow stripes of black which extend, parallel to each other, from the upper back to the rump; under parts of body immaculate white; bill dusky, the basal half of mandible dull orange; iris brown; legs and feet dull flesh color.

Adult male.—Wing, 246–258 (253.4); tail, 94–103 (98.2); culmen, 76.5–86 (81.1); greatest depth of bill, 13–14 (13.4); tarsus, 53.5–58 (56.1); middle toe, 37.5–41.5 (40.1).^a

Adult female.—Wing, 256–269 (260.2); tail, 99–105 (102.4); culmen, 86–91 (88.6); greatest depth of bill, 13–14 (13.6); tarsus, 53–58 (55.6); middle toe, 39–43 (40.8).^a

^a Five specimens from Atlantic coast, United States.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Five adult males from Atlantic coast, United States..	253.4	98.2	81.1	13.4	56.1	40.1
Three adult males from Bahama Islands (<i>H. p. pratti</i>)..	257	103.5	85.3	14.3	57.5	43.3
One adult male from Tampico, Tamaulipas, April (<i>H. p. palliatus</i>)	258	102	91	15	61	43

The exact status of the forms most nearly related to *H. palliatus* are, with the scant material available, exceedingly puzzling. It is not at all certain that *H. galapagensis* and *H. frazari* should be referred to that species, as geographic forms, but I have done so for the reason that the individual variation in *H. frazari* is very great, tending, on the one hand, to great exaggeration of the originally ascribed characters and on the other toward *H. palliatus*. Whether the specimens from Isabella Island and San Mateo, western Mexico, should be referred to *H. frazari* or to *H. palliatus*, or to either, I can not decide; they are so much like the latter in coloration that were it not for the question of locality there would be little hesitation in referring them to that form. The same applies to the specimens from Chile, which, however, certainly are not either *H. frazari* or *H. galapagensis*. The material examined convinces me of the desirability of careful investigation of the subject with the aid of more abundant material, and also of the probability that several additional subspecies of *H. palliatus* require recognition.

Atlantic and Gulf coasts of United States and Gulf coast of Mexico; north (breeding) to Virginia (formerly to New Jersey); formerly occurring casually or irregularly to eastern Pennsylvania (Chester Island, Delaware River), New York harbor (1 spec., May 28, 1877), Long Island (Greenport; Ponquoge; South Side Meadows), Massa-

Footnote—Continued.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES—continued.						
One adult male from Peru (Bay of Chilca) (<i>H. p. —?</i>)	260	106	81	12	52	33.5
One adult male from Chile (Algaroba) (<i>H. p. —?</i>).....	251	101	74	12	51	31
Four adult males from Galapagos Island (<i>H. p. galapagensis</i>)	251.2	98.4	82.4	12	50.9	42.2
adult males from Pacific coast of Mexico (<i>H. p. frazari</i>).....	259.1	101.8	75.9	13.3	53.2	39.2
FEMALES.						
Five adult females from Atlantic coast, United States.	260.2	102.4	88.6	13.6	55.6	40.8
Five adult females from Bahama Islands (<i>H. p. prattii</i>)	261.4	105.2	94.4	14	59.5	41.7
One adult female from Pacific coast, Mexico (Isabella Island) (<i>H. p. —?</i>).....	264	107	79	14	61	42
One adult female from Chile (Algaroba) (<i>H. p. —?</i>)....	280	109	81	12	61	36.5
Four adult females from Galapagos Islands (<i>H. p. galapagensis</i>).....	255.7	100.2	81.5	12.5	51.4	42.5
Fifteen adult females from Pacific coast of Mexico (<i>H. p. frazari</i>).....	264.3	104.9	83.5	13	55.7	40.3
One adult female from Pacific coast, Oaxaca (San Mateo, Tehuantepec) (<i>H. p. —?</i>).....	237	97	92.5	12.5	55.5	40

chusetts, and Nova Scotia); southward to Yucatan (Mérida; Cozumel Island).^a

Hæmatopus ostralegus (not of Linnæus) WILSON, Am. Orn., viii, 1814, 15, pl. 64, fig. 2.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xv, 1817, 408, part.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 300.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 12.

H[æmatopus] ostralegus BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 106; Obs. Nomencl. Wilson's Am. Orn., 1826, [189].

[?] ^b*Hæmatopus palliatus* TEMMINCK, Man. d'Orn., ed. 2, ii, 1820, 532 (South America).—MAXIMILIAN, Beitr. Naturg. Bras., iv, 1833, 746.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 15 (Brazil).—GOULD, Zool. Voy. 'Beagle,' Birds, 1841, 128 (Rio de la Plata, Argentina).—LEMBEYE, Aves de la Isla de Cuba, 1850, 104, pl. 14.—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 366.—CABANIS, Journ. für Orn., 1856, 423 (Cuba).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba); xvii, 1875, 445 (Massachusetts and Maine).—NEWTON, Ibis, 1861, 115 (St. Thomas).—GUNDLACH, Journ. für Orn., 1861, 342 (Cuba); 1862, 88 (Cuba; crit.); 1874, 313 (Porto Rico); 1875, 331 (Cuba); 1878, 162, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 358.—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursors), 1865, 74 (Chile; Brazil).—SUNDEVALL, Oefv. K. Vet.-Ak. Förh., 1869, 588 (St. Bartholomew).—PELZELN, Orn. Bras., 1870, 298, 455 (Mattogrosso; Cujutuba).—CUNNINGHAM, Ibis, 1870, 499 (Ancud, Straits Magellan, Nov.).—CORT, Birds Haiti and San Dom., 1885, 145; Auk, iv, 1887, 230, part (West Indian localities and references); Birds West Ind., 1889, 230, part; Cat. West Ind. Birds, 1892, 95, part.—BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay).—PETERS, Journ. für Orn., 1892, 121 (Curaçao).—HARTERT, Ibis, 1893, 108 (Aruba), 325 (Curaçao); Novit. Zool., ix, 1902, 307 (Aruba; Curaçao).—CHAPMAN, Bull. Am. Mus. N.H., vi, 1894, 75 (Trinidad).—APLIN, Ibis, 1894, 207 (Uruguay).—KOENIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. Brazil).—HOLMBERG, Segundo Censo Argentina, i, 1898, 565.—IHERING, Revista Mus. Paulista, iii, 1899, 426 (Iguape, São Paulo); vi, 1904, 343 (Paraguay).—THAYER and BANGS, Bull. Mus. Comp. Zool., xli, 1905, 146 (San Miguel Island, Bay of Panama, March).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 250 (coast Buenos Aires).—DABBENE, Orn. Argent., 1910, 215 (Patagonia; coast Buenos Aires).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 415 (Costa Rica).—GRANT (C. H. B.), Ibis, 1911, 466 (Cape San Antonio, etc., Argentina, Nov. 10-Apr. 11).—BERTONI, Fauna Parag., 1914, 38 (upper Rio Parana).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 38 (Culebra, Culebrita, and Desecheo islands, Porto Rico).

Hæmatopus palliatus AUDUBON, Orn. Biog., iii, 1835, 181, pl. 223; v, 1839, 580; Synopsis, 1839, 228; Birds Am., 8vo ed., v, 1842, 236, pl. 324.—JARDINE and SELBY, Illustr. Orn., (n. s.), 1836, pl. 7 (Florida Keys).—BONAPARTE, Geog. and Comp. List, 1838, 46.—PEABODY, Rep. Orn. Mass., 1839, 358.—GIRAUD,

^a I am unable to determine whether West Indian and South American records are really of this form, not having seen specimens. *H. palliatus* is, however, cited from Cuba, Haiti, Porto Rico, St. Bartholomew, St. Thomas, Trinidad, Aruba, Curaçao, Brazil (Mattogrosso; Cujutuba; Iguapé, São Paulo; Santa Catarina), Paraguay (upper Rio Paraná), Uruguay, Argentina (Rio de la Plata; coast of Buenos Aires; Cape San Antonio), and from San Miguel Island, Bay of Panama.

^b The interrogation mark indicates doubt as to identity of birds from the localities cited with those from the Atlantic and Gulf coasts of the United States, specimens not having been examined by the author.

- Birds Long Is., 1844, 222.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 72.—GLOGER, Journ. für Orn., 1855, 24 (habits).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 699.—BAIRD, Cat. N. Am. Birds, 1859, no. 512.—WILLIS, An. Rep. Smithson. Inst. for 1858 (1859), 286 (Nova Scotia).—DRESSER, Ibis, 1866, 34 (Galveston Bay, Texas).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 295 (vicinity New York City); ix, 1869, 210 (Merida, Yucatan).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 292 (coast New England); Check List, 1873, no. 404; 2d ed., 1882, no. 596.—TURNBULL, Birds E. Penn. and N. J., 1869, 38 (Phila. ed., 29).—BAILEY (H. B.), Bull. Nutt. Orn. Club, i, 1876, 26 (Cobb's Island, Virginia, breeding; habits).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 160 (San Pedro and Padre Islands, Texas, breeding).—SENNETT, Bull. U. S. Geol. and Geog. Surv., iv, 1878, 53 (Corpus Christi Pass, Texas).—MAYNARD, Birds Eastern N. Am., 1879, 365.—LAWRENCE (R.), Bull. Nutt. Orn. Club, v, 1880, 117 (New York Harbor, 1 spec., May 28, 1877).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am. Birds, no. 507); Nom. N. Am. Birds, 1881, no. 507.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 112.—BREWSTER, Auk, ii, 1885, 384 (Monomoy Island, Massachusetts, 1 spec., April, 1885).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 245 (Labrador).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 286; 3rd ed., 1910, p. 132.—DUTCHER, Auk, iii, 1886, 439 (Greenport and Ponquoge, Long Island, 2 specs.); x, 1893, 272 (South Side Meadows, Long Island, 1 spec., no date).—SCOTT, Auk, iv, 1887, 273, in text (Gulf coast Florida, breeding); vi, 1889, 160 (Old Tampa Bay and Charlotte Harbor, Florida).—SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxi, 305, part.—STONE, Auk, viii, 1891, 245 (Chester Island, Delaware River, 1 spec., May 14); Birds E. Penn. and N. J., 1894, 81 (coast New Jersey).—ELLIOT, North Am. Shore Birds, 1895, 209, pl. 71.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 114, part (Cobb's Island, Virginia; Corpus Christi Pass, Texas; Cozumel Island; Santa Catarina, s. Brazil?), 730, part (Florida).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 347, part.
- [?] *Hæmatopus palliatus* GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).—CORY, List Birds West Ind., 1885, 25, part.
- Hæmatopus palliatus* GRAY, Hand-list, iii, 1871, 21, no. 10,059, part.—COUES, Key N. Am. Birds, 1872, 246, part.—SOLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.—SHARPE, Hand-list, i, 1899, 147, part.
- H[æmatopus] palliatus* GRAY, Gen. Birds, iii, 1847, 547.—COUES, Key N. Am. Birds, 2d ed., 1884, 606.—RIDGWAY, Proc. U. S. Nat. Mus., ix, 1886, 325, part (diagnosis; range); Man. N. Am. Birds, 1887, 182, part.
- Ostralega palliata* LESSON, Traité d'Orn., 1831, 548.
- [?] *Haematopus brasiliensis* MAXIMILIAN, Reise Bras., i, 1820, 105, 173 (*nomen nudum*); ii, 1821, 338 (*nomen nudum*; see Allen, Bull. Am. Mus. N. H. ii, 1889, 271).
- [?] *H[æmatopus] brasiliensis* LICHTENSTEIN, Verz. Doubl., 1823, 73, under *H. ostralegus* (Brazil).
- [*Hæmatopus*] *brasiliensis* GRAY, Hand-list, iii, 1871, 210.
- [?] *Haematopus hypoleuca*, part, PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 129 ("America").
- H[æmatopus] articus* JARDINE, ed. Wilson's Am. Orn., iii, 1832, 35 (North America).

HÆMATOPUS PALLIATUS PRATII (Maynard).**BAHAMA OYSTER-CATCHER.**

Similar in coloration to *H. p. palliatus* but larger, and bill much stouter.

Adult male.—Wing, 241–270 (257); tail, 100–108 (103.5); culmen, 82–89 (85.3); greatest depth of bill, 14–14.5 (14.3); tarsus, 56.5–59 (57.5); middle toe, 43–44 (43.3).^a

Adult female.—Wing, 244–274 (261.4); tail, 102–112 (105.2); culmen, 88–104 (94.4); greatest depth of bill, 13.5–14.5 (14); tarsus, 58.5–60.5 (59.5); middle toe, 40–42.5 (41.7).^b

Bahama Islands (Flemmings Cay; Exuma Cay; Long Island; Abaco, North Andros, Inagua, Caicos, and Maragauna islands).

Haematopus prattii MAYNARD, App. to Cat. Birds West Ind., Nov. 29, 1899, 34 (Flemmings Key, Bahamas; coll. C. J. Maynard).

Haematopus prattii BANGS, Auk, xvii, 1900, 284 (Flemmings Key; crit.).

Haematopus palliatus (not of Temminck) BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas).—ALBRECHT, Journ. für Orn., 1861, 55 (Bahamas).—CORY, Birds Bahama Is., 1880, 150 (Andros and Inagua islands, Bahamas, resident); Auk, iv, 1887, 230, part (Bahamas); Birds West Ind., 1889, 230, part (Bahamas); Auk, viii, 1891, 297 (Caicos Islands, Bahamas), 334 (Abaco Island), 351 (Inagua); ix, 1892, 48 (Maragauna); Cat. West Ind. Birds, 1892, 95, part (Bahamas).—NORTROP, Auk, viii, 1891, 76 (Andros Island).—RIDGWAY, Auk, viii, 1891, 334 (Abaco Island).—BONHOTE, Ibis, 1903, 301 (Andros Island; crit.).—RILEY, Auk, xxii, 1905, 354 (Long Island, Bahamas, July).

[*Haematopus*] *palliatus* CORY, List Birds West Ind., revised ed., 1886, 25, part (Bahamas).

HÆMATOPUS PALLIATUS FRAZARI (Brewster).**FRAZER'S OYSTER-CATCHER.**

Similar to *H. p. palliatus* but averaging much darker (back, etc., grayish olive-brown or light clove brown to dark clove brown); chest usually conspicuously spotted or blotched with blackish, sometimes even whole breast, sides, flanks and under tail-coverts heavily blotched with blackish; upper tail-coverts with white more restricted, the longer one usually blotched with blackish; white on wing-coverts more restricted (confined to distal half, approximately, and edges of proximal portion of greater coverts), coverts on carpo-metacarpal region of under side of wing heavily blotched with dusky (often mostly of this color); wing and tail averaging longer, bill and feet averaging smaller.

^a Three specimens.

^b Five specimens.

Adult male.—Wing, 249–265 (259.1); tail, 97–109 (101.8); culmen, 70–82.5 (75.9); greatest depth of bill, 12.5–14.5 (13.3); tarsus, 50–56.5 (53.2); middle toe, 37.5–43 (39.2).^a

Adult female.—Wing, 245–275 (264.3); tail, 96–113.5 (104.9); culmen, 74–90 (83.5); greatest depth of bill, 12–14 (13); tarsus, 52–58 (55.7); middle toe, 38–44 (40.3).^a

Coasts and islands of Lower California (Carmen, Cerros, Cedros, Cerralvo, San Gerónimo, San Martín, Espíritu Santo, and Natividad islands; Los Coronados Islands; La Paz; San Quintín Bay; Magdalena Bay; Concepción Bay; northward, casually, to Ventura County, California, southward to Tepic (María Madre and María Cleofa islands, Tres Marias group; Isabella Island; White Rock; San Blas), Guerro (Acapulco; Cayacál; Sihutanejo).^b

[?] *Hæmatopus ostralegus* (not of Linnaeus) VIGORS, Zool. Voy. "Blossom," Birds, 1839, 29 (west coast of America).

[?] *Hæmatopus palliatus* (not of Temminck?) FRASER, Proc. Zool. Soc. Lond. 1843, 116 (Chile).—SCLATER and SALVIN, Ibis, 1859, 228 (mouth of Rio Nagualate, Pacific side, Guatemala); 1870, 497 (Ancud, Chile).—GERMAIN, Proc. Bost. Soc. N. H., vii, 1860, 314 (Chile).—SALVIN, Ibis, 1865, 190 (Chiapam, Guatemala); Proc. Zool. Soc. Lond., 1883, 429 (Paracas Bay, Peru).—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1872, 284 (Tres Marias Islands, w. Mexico).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 308 (Mazatlan, Sinaloa; Isabella Island; Tres Marias Islands; Rio Zacatula, Colima); Bull. U. S. Nat. Mus., no. 4, 1876, 46 (San Mateo and San Francisco, Oaxaca, Feb., April).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 748 (Santa Lucia, Peru); Orn. du Pérou, iii, 1886, 350.—PHILIPPI, Ornith., vol. 4, 1888, 159 (Chañaral, n. Chile).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 114, part (Chiapam, Guatemala; Veragua).—NELSON, North Am. Fauna, no. 14, 1899, 34 (Tres Marias Islands; Isabella Island; coast near San Blas, Tepic; crit.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 347, part (Tres Marias; Isabella Island; Mazatlan; Rio Zacatulo; San Francisco, San Mateo, Tehuantepec, and Santa María del Mar, Oaxaca; Tonalá, Chiapas; Nagualate and Chiapam, Guatemala; Bahía de Salinas, Costa Rica; Veragua; Panama).

[?][*Hæmatopus*] *palliatus* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 63 (Chiapam, Guatemala).

Hæmatopus palliatus BELDING, Proc. U. S. Nat. Mus., vi, 1883, 351 (La Paz, Lower California).—EVERMANN, Auk, iii, 1886, 92 (Ventura Co., California).—RIDGWAY, Proc. U. S. Nat. Mus., v, 1883, 527 (Los Coronados Islands, Lower California).—SHARPE, Cat. Birds. Mus., xxiv, 1896, 114, part (many references in synonymy).

^a Fifteen specimens.

^b Also cited by Sharpe (Cat. Birds Brit. Mus., xxiv, 1896, 117) and others as occurring on the coast of Peru (Paracas Bay; San Lorenzo Island) and Chile (Arauco, Province of Tarapacá; Province of Santiago; Ancud; Chañaral), and even the Straits of Magellan. Pacific coast citations of *H. palliatus* which may or may not be referable to this form (see first paragraph on p. 34) are: Oaxaca (San Mateo; Santa María del Mar; San Francisco; Tehuantepec), Chiapas (Tonalá), Guatemala (Chiapam; mouth of Rio Nagualate), Costa Rica (Bahía de Salinas) and Panamá (Veragua; San Miguel Island, Bay of Panamá).

- Hematopus frazari* BREWSTER, Auk, v, Jan., 1888, 84 (Carmen Island, Gulf of California; coll. W. Brewster); Bull. Mus. Comp. Zool., xli, no. 1, 1902, 74 (synonymy; range).—CHAPMAN, Auk, v, 1888, 395.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. to Check List, 1889, 7; Check List, abridged ed., 1889, and 2d ed., 1895, no. 286. 1; 3rd ed., 1910, p. 133.—BRYANT (W. E.) Proc. Calif. Ac. Sci., 2nd ser., ii, 1889, 275, 276 (Los Coronados Islands; San Quentin Bay; Magdalena Bay; Cerros Island; Santa Margarita Island; La Paz; habits).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., xiii, 1890, 135 (Concepcion Bay, Lower California).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 117, part (Tres Marias Islands), 730 (mouth of Rio Zacatula, Colima).—RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 588.—GRINNELL and DAGGETT, Auk, xx, 1903, 33 (Los Coronados Islands, 2 specs., Aug.).—SALVIN and GODMAN, Biol. Centr.-Am., iii, 1903, 348, part (Los Coronados and Tres Marias Islands; Carmen Island).—BAILEY (H. H.), Auk, xxiii, 1906, 384 (near San Blas, Tepic; White Rock and Isabella Island, Tepic).—THAYER and BANGS, Condor, ix, 1907, 78 (Cerros Island; crit.), 80 (Natividad Island, April).
- [?] *Hematopus frazari* LANE, Ibis, 1897, 303 (Arauco, Chile; fresh colors of unfeathered parts).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 117, part (Arauco, Prov. Tarapacá, Chile; Prov. Santiago Chile; Paracas Bay, Peru).—SCHALOW, Zool. Jahrb., iv, Heft 3, 1898, 663 (Chile, Nov.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 348, part (Peru; Chile).
- [*Hematopus*] *frazari* SHARPE, Hand-list, i, 1899, 147, part (at least).—[?] FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 63 (Chile).
- Hematopus frazari* ELLIOT, North Am. Shore Birds, 1895, 210, 211, pl. 72.
- [*Hematopus*] *frazari* ELLIOT, North Am. Shore Birds, 1895, 252.

HÆMATOPUS PALLIATUS GALAPAGENSIS (Ridgway).

GALAPAGOS OYSTER-CATCHER.

Similar to *H. p. frazari* but color of back, etc., averaging darker (clove brown or darker); white on greater wing-coverts still more restricted (occupying less than distal half), under tail-covert immaculate white, and wing and tail decidedly shorter but middle toe longer.

Adult male.—Wing, 241–259 (250.9); tail, 90.2–99.5 (97.1); culmen, 78.7–86 (82.1); greatest depth of bill, 11.5–13 (12.2); tarsus, 50–53.3 (51.7); middle toe, 41.4–43.5 (42.1).^a

Adult female.—Wing, 241.3–259 (253.5); tail, 88.9–103.1 (97.7); culmen, 77.5–87.6 (82); greatest depth of bill, 12–13.5 (12.7); tarsus, 48.5–55.9 (52.5); middle toe, 40–48 (43.4).^b

Galápagos Archipelago (Albemarle, Barrington, Bindloe, Charles, Chatham, Gardner-near-Hood, Hood, Indefatigable, James, Narborough, Seymour, and Tower Islands; Delano Rock and islets east of Jervis Island).

Hematopus palliatus (not of Temminck) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323 (Indefatigable I., Galapagos Archipelago).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 125 (Galapagos).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 502 (Indefatigable I.; habits, etc.).

^a Seven specimens.

^b Nine specimens.

- Hæmatopus galapagensis* RIDGWAY, Auk, iii, no. 3, July, 1886, 331 (Chatham Island, Galapagos Archipelago; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., ix, 1886, 325 (full descr.); xii, 1889, 116, 120, 123, 128 (James, Chatham, and Indefatigable islands); xix, 1896, 621 (Albemarle, Hood, Chatham, Indefatigable, James, and Bindloe islands, Galapagos; synonymy; descr.; crit.; measurements).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 116 (Indefatigable Island).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 186 (Albemarle, Hood, Bindloe, James, Indefatigable, Tower, and Chatham islands; crit.); ix, 1902, 412 (Indefatigable, Albemarle, and Seymour islands; descr. young), 418 (Galapagos).—GIFFORD, Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 47 (Albemarle, Barrington, Bindloe, Charles, Chatham, Gardner-near-Hood, Hood, Indefatigable, James, Narborough, Seymour, and Tower islands; Delano Rock and islets e. of Jervis Island; habits; crit.), 114 (measurements).
- H[æmatopus] galapagensis* RIDGWAY, Man. N. Am. Birds, 1887, 182.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 203 (Galapagos).
- [*Hæmatopus*] *galapagensis* SHARPE, Hand-list, i, 1899, 147.—FORBES and ROBINSON, Bull. Liverp. Mus. ii, 1899, 63.
- Hæmatopus leucopus galapagensis* SEEBOHM, Geog. Distr. Charadr., 1887, pp. xxii, 307.
- Hæmatopus galapagoensis* BAUR, Am. Nat., xxxi, 1897, 783 (Charles and Gardner-near-Hood islands), 784 (Tower Island).

HÆMATOPUS BACHMANI (Audubon).

BLACK OYSTER-CATCHER.

Adults in breeding season (sexes alike).—Head, neck, and chest plain blackish gray (nearly dark mouse gray or between that and iron gray), the feathers of chest and breast with a subterminal U-shaped bar of black; rest of plumage uniform dark sooty brown (nearest clove brown), the primary coverts, primaries, and rectrices darker; "bill vermilion, fading to yellow on the worn parts toward the end; edges of eyelids vermilion; iris yellow; feet white, slightly tinged with flesh color; claws yellowish, toward the end dusky."

Adults in winter.—Similar to the summer plumage but feathers of abdomen narrowly tipped with white.

Young.—(Not seen.)

Downy young.—General color brownish gray, becoming darker on sides of throat and foreneck, the median portion of foreneck, chest, and sides lighter and clearer (less brownish) gray; a white spot on center of abdomen; occiput with large spots or blotches of black, back with two broad stripes of black, tail blackish, and upper surface in general minutely mottled or freckled with black.

Adult male.—Wing, 241–267 (251.7); tail, 96–107 (100.9); culmen, 64–75 (69.1); greatest depth of bill, 12–13 (12.4); tarsus, 46–51.5 (48.8); middle toe, 38–45 (40.8).^a

Adult female.—Wing, 251–268 (257.1); tail, 91.5–106 (101.9); culmen, 70–83 (75.6); greatest depth of bill, 12–14 (12.8); tarsus, 45–53 (49.2); middle toe, 38.5–43 (40.3).^b

Pacific coast of North America, from Lower California northward, and across through Aleutian chain to Kuril Islands, Japan; breeding from Aleutian Islands (Amchitka, Agattu, Attu, Atka, Kyska, and Semichi islands) eastward and southward to Santa Barbara and Santa Cruz islands, California, and Los Coronados Islands, Lower California; winters from southern British Columbia to Lower California (San Martin Island; Todos Santos Island; San Gerónimo Island; San Quentin Bay; La Paz).

[*Scolopax*] *nigra* (not *Scolopax niger* Meuschen, 1787 c) GMELIN, Syst. Nat., i, pt. ii, 1789, 659 (islands between northern Asia and America, i. e., Aleutian Islands; based on *Black Snipe* Pennant, Arctic Zool., ii, 1785, 469; Latham, Synopsis Birds, iii, pt. i, 153).—LATHAM, Index Orn., ii, 1790, 723.—TURTON, Syst. Nat., i, 1806, 395.

Hematopus niger (not of Temminck, 1820 d) PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 131 (Kuril Islands; Kadiak).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 700.—BAIRD, Cat. N. Am. Birds, 1859, no. 513.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 311 (Kuril Islands).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursors), 1865, 76, part.—BROWN, Ibis, 1868, 424 (Vancouver Island).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 290 (Sitka; Kodiak).—DALL, Proc. Calif. Ac. Sci., v, 1873, 28, 274 (Aleutian Islands).—COUES, Check List, 1873, no. 405; 2d ed., 1882, no. 597.—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1876, 270 (Santa Cruz Island, California, June; habits, etc.).—STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 17 (San Martin Island, Lower California).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am.

^a Eleven specimens.

^b Ten specimens.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Four adult males from Alaska.....	257	103.6	70.1	12.5	49.7	42.6
One adult male from British Columbia.....	254	98	68	12.5	48.5	40
Three adult males from Washington.....	246	98.8	69.3	12.8	48.8	41
Three adult males from Lower California.....	249.7	101	66.5	12.3	47.7	38.2
FEMALES.						
Five adult females from Alaska.....	257	99	76	13	48	40.8
Two adult females from Washington.....	254.5	104.5	74.5	12.7	50	38.7
One adult female from California.....	258	105	80	13	51	40
Two adult females from Lower California.....	259.5	106	73.7	12.7	(52)	(41)

^c Unidentified and (according to Dr. Richmond) probably unidentifiable.

^d = *H. moquini* Bonaparte, of Africa.

- Birds, no. 508); Nom. N. Am. Birds, 1881, no. 508.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 163, 173 (Sitka Bay; Port Althorp, Alaska).—NELSON, Cruise 'Corwin' in 1881 (1883), 82 (Aleutian Islands).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 528 (Los Coronados Islands, Lower California, May; San Quentin Bay, Lower California).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 116.—SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxii, 310, figs.; Birds Japanese Emp., 1890, 313 (Kuril Islands).—SCHALOW, Journ. für Orn., 1891, 258 (Aleutian Islands; Kadiak).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 120 (Aleutian Islands; Puget Sound; Denman's Island, Straits of Georgia; Haro Channel; San Juan de Fuca; Santa Cruz Island, California), 731 (California).
- [*Hæmatopus*] *niger* COUES, Key N. Am. Birds, 1872, 246.—SHARPE, Hand-list, i, 1899, 147.
- H[æmatopus]* *niger* COUES, Key N. Am. Birds, 2d ed., 1884, 607.
- [*Hæmatopus niger*] Var. *niger* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 109.
- [*Melanibyz*] *niger* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 337 (Kadiak Island; Aleutian Islands).
- Hæmatopus bachmani* AUDUBON, Orn. Biog., v, 1839, 245 (mouth of Columbia River); Birds Am., 8vo ed., v, 1842, 243, pl. 325.—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States); Narrative, 1839, 348.—TURNER, Auk, ii, 1885, 157 (Attu, Semechi, and Agattu islands, Aleutian chain); Contr. N. H. Alaska, 1886, 151 (Shumagin Islands to Kyska Island, Aleutians).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 287; 3rd ed., 1910, p. 133.—NELSON, Rep. N. H. Coll. Alaska, 1887, 130 (Sitka; Kadiak; Shumagins; Aleutians).—EVERMANN, Auk, iii, 1886, 92 (Ventura Co., California).—BLAKE, Auk, iv, 1887, 329 (Santa Cruz Island, California, breeding).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 276 (Los Coronados Islands, San Quentin Bay, and La Paz, Lower California).—ELLIOT, N. Am. Shore Birds, 1895, 213, pl. 73.—GRINNELL and DAGGETT, Auk, xx, 1903, 33 (Los Coronados Islands, breeding).—WRIGHT, Condor, xi, 1909, 100 (Los Coronados Islands).
- H[æmatopus]* *bachmani* GRAY, Gen. Birds, iii, 1847, 547.—RIDGWAY, Man. N. Am. Birds, 1887, 183.
- Hæmatopus bachmani* AUDUBON, Synopsis, 1839, 229.
- Hæmatopus bachmanii* AUDUBON, Birds Am., folio ed., iv, 1838, pl. 427, fig. 1.
- H[æmatopus]* *ater* (not of Vieillot) GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 221 (San Pedro, coast of California).

Family ARENARIIDÆ.

THE TURNSTONES.

- =*Streptilina* GRAY, List Gen. Birds, 1840, 70.
- =*Cinclina* GRAY, List Gen. Birds, ed. 2, 1841, 85.
- >*Streptilasina* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143 (includes Aphrizidæ).
- >*Streptilidæ* RIDGWAY, Proc. U. S. Nat. Mus., i, Sept. 4, 1880, 239 (includes Aphrizidæ).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 107, 118 (includes Aphrizidæ).
- =*Streptilina* COUES, Key N. Am. Birds, 2d ed., 1884, 608.
- >*Arenarina* STEJNEGER, Standard Nat. Hist., iv, 1885, 99, in text (includes Aphrizidæ).

- = *Arenariinae* AMERICAN ORNITHOLOGISTS UNION, Check List, 1886, 164; 3rd ed., 1910, 131.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, ix, 90, 91; Hand-list, i, 1899, xv, 146.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 345.
- = *Arenariidae* SHUFELDT, Journ. Morph., ii, no. 2, Nov., 1888, 338.
- = *Arenariidae* OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.
- > *Aphrizidae* COUES, Key N. Am. Birds, 2d ed., 1884, 605, in text.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 164; 3d ed., 1910, 131.—RIDGWAY, Orn. Illinois, ii, 1895, 18, 20.
- = *Morinellidae* MATHEWS, Birds of Australia, iii, pt. i, April, 1913, 4.
- > *Hæmatopodidae* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 689, 699.—COUES, Key N. Am. Birds, 2d ed., 1884, 606.
- > *Hæmatopodinae* CARUS, Handb. Zool., i, 1868, 337.

Medium-sized or rather small Charadrii with a well-developed though small hallux; regular transverse scutella on both acrotarsium and planta tarsi; no web or membrane between bases of anterior toes; subcuneate, compressed bill; slightly rounded tail, and thigh-muscle formula AXY.

In possession of a distinct hallux, regular transverse scutella on the acrotarsium, and relatively stout feet, the *Arenariidae* agree with the *Aphrizidae* and differ from the *Charadriidae* and *Hæmatopodidae*. In the scutellate planta tarsi and form of the bill, however, the *Arenariidae* are peculiar, the latter being subcuneate in lateral profile, compressed and acute terminally, the upper outline nearly straight or sometimes even slightly concave, the lower outline being more convex, with the gonys ascending terminally. The thigh-muscle formula differs from that of the *Hæmatopodidae* and *Charadriidae*, being AXY instead of ABXY. Unfortunately the thigh-muscle formula of the *Aphrizidae* is unknown.

The Turnstones comprise a single genus of only two species, one of which is nearly cosmopolitan in its range though breeding only far northward, the other peculiar to the Pacific coast of North America.

Genus ARENARIA Brisson.

- Arenaria* BRISSON, Orn., v, 1760, 132. (Type, by tautonymy and monotypy, [*Arenaria*] *arenaria* Brisson = *Tringa interpres* Linnaeus.)
- Morinella* BARTRAM, Trav. Carolina, etc., 1791, 294 (London ed., 1792, 292): Zimmerman, in Bartram, Reis. Nord- und Sud-Karolina, 1793, 291. (Type, by monotypy and tautonymy, *M. americana* Zimmerman = *Tringa morinella* Linnaeus. See Mathews, Auk, xxxi, 1914, 89, 91.)
- Morinella* MEYER and WOLF, Taschenb. Vög. Deutschl., ii, 1810, 383. (Type, by monotypy, *Morinella collaris* Meyer = *Tringa interpres* Linnaeus.)
- Streptilas*^a ILLIGER, Prodrornus Orn., 1811, 263. (Type, by subsequent designation of Gray, 1840, *Tringa interpres* Linnaeus.)
- Cinclus* "Moehrf[ing]" (not of Borkhausen, 1797 nor Bechstein, 1802) GRAY, List Gen. and Subgen. Birds, 2d ed., 1841, 85. (Type, by original designation and monotypy, *Tringa morinellus* Linnaeus.)
- Morinellus* "Ray" GRAY, List Gen. Birds, 1840, 70 (in synonymy of *Streptilas*).

^a στρεψιλς, *vertere*, λᾶς, *lapis*. (Illiger.)

Medium-sized (wing 138-160 mm.), stoutly built Charadrii with well-developed hallux, wedge-shaped bill, stout legs and feet, and scutellate acrotarsium and planta tarsi.

Bill shorter than head, cuneate and acute in lateral profile, its depth at base equal to about one-third the length of culmen, the terminal portion narrow and flattened, the mesorhinium rather broad and flattened; sides of maxilla with a broad lateral groove, extending for less than half way from base to tip, the anterior end more or less rounded; base of mandible with a narrow lateral groove, extending for less than half the distance to tip; nostril sub-basal, longitudinal, linear, in lower edge of membraneous nasal fossa. Wing rather long, pointed, the longest primary (outermost) extending much beyond tip of longest tertials. Tail much more than one-third as long as wing, truncate. Tarsus decidedly longer than exposed culmen, about as long as middle toe with claw, the acrotarsium and planta tarsi each with a single row of transverse scutella, otherwise covered with small hexagonal scales; toes rather stout, the anterior ones fringed with a distinct, slightly scalloped, lateral membrane, the lateral ones much shorter than the middle one, the inner slightly shorter than the outer; interdigital spaces completely cleft; hallux well-developed, about as long as middle phalanx of middle toe; claws rather short, but stout and distinctly curved; lower portion of tibia unfeathered.

Coloration.—Under parts (except chest), upper rump, upper tail-coverts and greater wing-coverts, white; rest of plumage chiefly dusky, the upper parts sometimes varied with white and cinnamon-rufous.

Range.—Sea coasts nearly throughout the world, but breeding only in northern portions of northern hemisphere. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES ARENARIA.

- a. Chin and throat white; summer adults with upper parts partly cinnamon-rufous. (*Arenaria interpres*.)
 - b. Coloration darker; adult male in summer with blackish predominating on upper parts, and black streaks on pileum broader; adult female in summer with upper parts mostly, often almost wholly, grayish brown; wing averaging more than 150, tail more than 62 mm. (Greenland, northern Europe and Asia, and Alaska north of Aleutian chain; south in winter to Africa, Australia, Oceania, etc.).....*Arenaria interpres interpres* (p. 45).
 - bb. Coloration lighter; adult male in summer with cinnamon-rufous and white predominating on upper parts, and black streaks on pileum narrower; adult female in summer with cinnamon-rufous largely replacing grayish brown on upper parts; wing averaging less than 150, tail less than 61 mm. (North-eastern North America, from Mackenzie basin to Melville Island, etc.; in winter southward to southern Brazil, Chile, etc.)
 - Arenaria interpres morinella* (p. 51).
- aa. Chin and throat deep sooty gray or dusky; summer adults without any cinnamon-rufous on upper parts. (Pacific coast of North America and northeastern Siberia).....*Arenaria melanocephala* (p. 55).

ARENARIA INTERPRES INTERPRES (Linnaeus).

TURNSTONE.

Adult male in breeding plumage.—A large spot at lateral base of bill, occupying greater part of loreal region, a broad superciliary stripe (continued across fore part of crown, thus uniting the two of opposite sides), terminal portion of auricular region, posterior portion of sides of neck, chin, throat, and under parts posterior to chest, but including median portion of the last, white, the superciliary stripe and post-frontal band usually more or less streaked or flecked with black; a narrow band extending from base of culmen to anterior portion of eye, posterior portion of loreal region, suborbital region, anterior part of auricular region, malar region, anterior portion of sides of neck, foreneck, upper chest and sides of chest black, all these areas confluent; pileum black, more or less broadly streaked with white (except sometimes on crown), the hindneck white, usually streaked with black; interscapular region black, usually with a median area (more or less broken) of dull cinnamon-rufous or hazel, the posterior scapulars mostly black, the anterior ones mostly, or in large part, dull cinnamon-rufous or hazel; lesser wing-coverts mostly plain dusky, the middle and greater coverts dusky centrally, broadly margined with pale grayish brown, sometimes intermixed or suffused with cinnamon; a patch of white involving innermost (proximal) wing-coverts and distal elongated posterior scapulars; greater coverts black, narrowly edged and broadly tipped with white; alula, primary coverts, and primaries dull black or dusky, the outer webs of five proximal primaries abruptly white basally, the shafts of all the primaries partly or wholly white; secondaries white basally, dusky edged with white terminally, the white increasing on innermost ones until finally wholly replacing the dusky; lower back, rump, and lateral and terminal upper tail-coverts immaculate white; central upper tail-coverts black; tail white basally, black distally, tipped, more or less broadly, with white; bill blackish; iris brown; legs and feet orange-red (in life).

Adult female in summer.—Similar in pattern of coloration to the male, but with much less of cinnamon-rufous (sometimes almost none) on upper parts, and pileum streaked with brownish gray rather than white.

Adults (both sexes) in winter.—Much like the adult female in summer, but without well-defined white or black areas on head; black of foreneck and chest much broken by whitish tips to the feathers; pileum brownish gray, streaked with dusky; back, scapulars, etc., without any cinnamon-rufous, the feathers blackish centrally, brownish gray or grayish brown marginally—the two colors in varying relative proportion.

Young.—Much like winter adults, but scapulars, interscapulars, and tertials abruptly but rather narrowly margined with brownish buff to dull whitish, and tail tipped with buffy or cinnamomeous.

Downy young (about 3 days old, *vide* Collett).—"Blackish gray, slightly washed with yellowish, and here and there tipped with black; along the crown is a narrow black band reaching to the forehead, though not quite to the base of the bill; a similar stripe extends from the base of the upper mandible to the eye; and there is a black spot at the gape; sides of the throat gray; belly white; wing and scapulars colored like the back." (Dresser.)

Adult male.—Wing, 140–156.5 (149.9); tail, 57–63 (61.2); exposed culmen, 20–22.5 (20.8); tarsus, 23–25.5 (24.3); middle toe, 20–23 (21.8).^a

Adult female.—Wing, 140–160 (153.1); tail, 59–68 (62.4); exposed culmen, 21–23 (21.9); tarsus, 23.5–25.5 (24.8); middle toe, 21–24 (21.8).^b

Breeding in northern Europe and Asia, including islands in Arctic Ocean, and northwestern Alaska (Yukon delta to Point Barrow) and western Greenland; in migration southward over practically the whole of Eastern Hemisphere (seacoasts and shores of larger inland waters) as far southward as New Zealand, New Caledonia, New Hebrides, Madagascar, etc., and through islands in Bering Sea and Aleutian Islands southward along Pacific coast of America to Chile, and throughout islands of Pacific Ocean. (Lower California: San Ysidro;

^a Seventeen specimens.

^b Ten specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Mid- dle toe.
MALES.					
One adult male from England.....	155	62.5	22	24.5	22.5
One adult male from France.....	150	63	21	23	22
Eleven adult males from Alaska.....	148.2	60.5	20.4	24.4	21.5
One adult male from Bering Island, Kamchatka.....	153	62	22.5	24.5	21.5
Two adult males from Japan.....	155.7	62	21.5	24	22
One adult male from Hawaii.....	149	63	21	25	24
Ten adult males of <i>A. t. morinella</i>	145.5	60	21.7	24.5	21.8
Ten adult males of <i>A. melanocephala</i>	144.3	60.1	22.2	24.9	23.2
FEMALES.					
Four adult females from Europe (three from England).....	150.1	62.5	21.5	23.5	22.5
Five adult females from Alaska.....	154.3	62.5	22.2	24.8	21.5
One adult female from Japan.....	159	62	22	25.5	21
Eleven adult females of <i>A. t. morinella</i>	148.6	60.4	22.9	24.5	22
Eight adult females of <i>A. melanocephala</i>	148.7	60.1	22.9	24.7	23.3

I am unable to find any fairly constant differences between European and Alaskan specimens. The European series is very small, however, and the comparison therefore not conclusive.

Magdalena Bay; Santa Margarita Island. Colima: Rio Zacatula. Oaxaca: San Mateo; Santa Maria del Mar. Chiapas: Tonalá. Costa Rica: Punta Mala, delta del Rio Dagua; Cocos Island. Panamá: Veragua. Galápagos Archipelago: Abingdon, Albemarle, Barrington, Bindloe, Brattle, Charles, Chatham, Culpepper, Daphne, Gardner-near-Hood, Hood, Indefatigable, James, Jervis, Narborough, Seymour, Tower, and Wenman islands. Peru: Ancón; Chorillos; Paracas Bay. Chile: Telcahuano; Paposo.) Accidental in Massachusetts (Monomoy Island, Sept. 8, 1882).

[*Tringa interpres* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148 (Islands of Gothland, Sweden); ed. 12, i, 1766, 248.—BRÜNNICH, Orn. Bor., 1764, 52.—GMELIN, Syst. Nat., i, pt. ii, 1789, 671.—LATHAM, Index Orn., ii, 1790, 738, part (England).—TURTON, Syst. Nat., i, 1806, 404.

Tringa interpres FABRICIUS, Fauna Groenl., 1780, 109.—BODDAERT, Tabl. Pl. Enl., 1783, 52, part (Pl. Enl., pl. 856).—LESSON, Traité d'Orn., 1831, 561.—YARRELL, Brit. Birds, ii, 1843, 422.—CHAPMAN, Trav. S. Afr., ii, 1868, App., 416.—GÄTKE, Vogelw. Helgoland, 1891, 524.

Arenaria interpres VIEILLIOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 345, pl. R. 4, no. 4; Gal. Ois., ii, 1834, 102.—ROUX, Orn. Prov., 1825, pls. 280, 281.—STEJNEGER, Auk, i, 1884, 229, part; Bull. U. S. Nat. Mus., no. 29, 1885, 102 (Bering Island, Kamchatka); Proc. U. S. Nat. Mus., xi, 1888, 96 (Nihoa, Hawaiian group); xii, 1889, 381 (Kauai, Hawaiian group); xxi, 1898, 279 (Kuril Islands; breeding?).—AMERICAN ORNITHOLOGISTS' UNION, Check List., 1886, and 2d ed., 1895, no. 283, part.—TURNER, Auk, ii, 1885, 157 (Nearer Islands, Alaska, summer); Contr. N. H. Alaska, 1886, 150, 190 (shores Bristol Bay, Alaska Peninsula, and Aleutian Islands; habits).—NELSON, Rep. N. H. Coll. Alaska, 1887, 128 (mouth of Yukon River to Point Barrow, Aleutians, and islands in Bering Sea; habits; crit.).—TOWNSEND, (C. H.), Cruise 'Corwin' in 1885 (1887), 100 (Port Clarence, June 28); Auk, iv, 1887, 12 (Kowak River, Alaska).—BRYANT (W. E.), Proc. Calif. Ac. Sci. 2d ser., ii, 1889, 275 (San Ysidro, Magdalena Island, and Santa Margarita Island, Lower California).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 52.—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 116 (Hood Island, Galapagos); xix, 1896, 625 (Albemarle, Hood, Indefatigable, and Bindloe islands, Galapagos).—BERLEPSCH and STOLEMANN, Proc. Zool. Soc. Lond., 1892, 395 (Ancon, Peru, Jan.).—CHERRIE, Expl. Zool. Merid. C. R., 1893, 55 (Punta Mala, delta del Rio Dagua, s. w. Costa Rica).—SCHALOW, Journ. für Orn., 1895, 470 (w. Greenland).—ELLIOT, North Am. Shore Birds, 1895, 202, pl. 68.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 92, 728, part (Old World, Pacific Ocean, and Bering Sea localities and references).—BAUR, Am. Nat., xxxi, 1897, 783 (Charles Island, Galapagos).—ANTHONY, Auk, xv, 1898, 318 (Clarion Island, May 21).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 187 (Culpepper, Chatham, Charles, Indefatigable, Jervis, and Albemarle islands, Galapagos); ix, 1902, 418 (Galapagos in migration).—GRANT, Novit. Zool., vii, 1900, 267 (s. Arabia).—KAISER, Journ. für Orn., 1902, 256 (Nauru Island).—FISHER (W. K.), Bull. U. S. Fish Com. for 1903, 35 (Laysan and Necker islands in migration).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 345, part (Rio Zacatula, Colima; San Mateo and Santa Maria del Mar, Oaxaca; Tonalá, Chiapas; Pacific coast Guatemala; Veragua, Panama).—HARTERT, Novit. Zool., xii, 1905, 102 (Azores).—ALLEN, Bull.

- Am. Mus. N. H., xxi, 1905, 241 (Gichiga, Lake Kanka, and Novo Marinsk, n. e. Siberia).—BISHOP, Auk, xxiii, 1906, 335 (Monomoy Island, Massachusetts, 1 spec., Sept. 8, 1892).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 415 (Pacific coast Costa Rica).—GIFFORD, Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 46 (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Charles, Culpepper, Chatham, Daphne, Gardner-near-Hood, Indefatigable, James, Jervis, Narborough, Seymour, Tower, and Wenman islands, Galapagos, "every month in the year"; Cocos Island).
- [*Arenaria*] *interpres* SHARPE, Hand-list, i, 1899, 146, part.
- A[*renaria*] *interpres* RIDGWAY, Man. N. Am. Birds, 1887, 180, part.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos Islands).—BRYAN, Key Birds Hawaiian Islands, 1901, 29.
- Arenaria interpres interpres* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, 131.
- Streptilas interpres* ILLIGER, Prodr. Orn., 1811, 263.—NAUMANN, Vög. Deutschl., vii, 1834, 303, pl. 180.—DARWIN, Zool. Voy. 'Beagle,' iii, 1841, 132 (coast Peru; Galapagos Islands).—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 57.—FRASER, Proc. Zool. Soc. Lond., 1843, 48 (Chile).—GOULD, Birds Australia, vii, 1848, pl. 39 and text; Introd. Birds Australia, 1848, 101; Handb. Birds Australia, ii, 1865, 269; Birds Great Brit., iv, 1873, pl. 60 and text.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland).—MIDDENDORFF, Sibir. Reise, ii, pt. 2, 1853, 213.—HARTLAUB, Journ. für Orn., 1854, 170 (Galapagos Islands); Proc. Zool. Soc. Lond., 1867, 331 (Pelew Islands); Vög. Madagas., 1877, 293 (resident).—REINHARDT, Journ. für Orn., 1854, 440 (Greenland).—CASSIN, Proc. Ac. Nat. Sci. Phila., ix, 1857, 40 (Muni River, w. Africa); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 701, part (Shoalwater Bay, Washington).—BAIRD, Cat. N. Am. Birds, 1859, no. 515, part.—GRAY, Proc. Zool. Soc. Lond., 1859, 166 (New Caledonia); Cat. Mam. and Birds New Guinea, 1859, 51.—HARTLAUB, Journ. für Orn., 1860, 166 (Madagascar).—WALKER, Ibis, 1860, 166 (Godhavn, Greenland, July).—LINDERMAYER, Vög. Griechenl., 1860, 136.—SWINHOE, Ibis, 1860, 359 (Amoy, China); 1861, 342 (Peking, China); 1862, 255 (Foochow, China); 1863, 315 (Amoy), 414 (Formosa); 1870, 361 (Hainan).—SALVIN, Ibis, 1865, 191 (Chiapam, Guatemala).—NEWTON, Ibis, 1863, 455 (Madagascar); 1865, 150 (Rodriguez); 1867, 350, 359 (Seychelles); Proc. Zool. Soc. Lond., 1877, 301 (Anjouan, Comorro group).—JERDON, Birds India, iii, 1863, 656.—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursores), 1865, 43; Proc. Zool. Soc. Lond., 1866, 425 (Madagascar).—GODMAN, Ibis, 1866, 100, 107 (Azores, June); 1872, 221 (Madeira); Azores, 1870, 33 (probably breeding).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 154.—SCLATER, Proc. Zool. Soc. Lond., 1867, 339 (Chile); 1877, 557 (Admiralty Islands); Ibis, 1871, 340 (Hawaiian Islands).—BEAVAN, Ibis, 1867, 332 (Andaman Islands).—FINSCH and HARTLAUB, Faun. Centralpolyn., 1867, 197; Proc. Zool. Soc. Lond., 1868, 8 (Pelew Islands); Vög. Ostafrika, 1870, 662.—DYBOWSKI and PARVEX, Journ. für Orn., 1863, 337.—DOLE, Proc. Bost. Soc. N. H., xiii, 1869, 304 (Hawaiian Islands).—DALL and BANISTER, Trans. Chicago Ac. Sci., i, 1869, 290 (mouth Yukon River).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323 (Indefatigable and Bindloe islands, Galapagos).—FRITSCH, Vög. Eur., 1870, pl. 34, figs. 2, 8.—SALVADORI, Faun. Ital., Ucc., 1871, 207; Ucc. Borneo, 1874, 320 (Sarawak); Ann. Mus. Genova, vii, 1876, 384 (Bourou); Orn. Papuasias, ii, 1882, 298; Elench. Ucc. Ital., 1887, 213; Agg. Orn. Papuasias, pt. iii, 1891, 198.—HARTLAUB and FINSCH, Proc. Zool. Soc. Lond., 1872, 89 (Mackenzie Island), 104 (Uap).—HARTING, Handb. Brit. Birds, 1872, 45.—HEUGLIN, Ibis, 1872, 62 (Novaya Zemlya).—FINSCH,

Abh. nat. Verh. Bremen, iii, 1872, 62 (St. Michael, Sitka, etc., Alaska); Journ. für Orn., 1872, 52 (Samoa), 170 (New Zealand); 1874, 194 (New Zealand); 1880, 294 (Ponape, Caroline group), 306 (Kuschai, Carolines); Proc. Zool. Soc. Lond., 1877, 770 (Eua), 781 (Ponape), 784 (Niuafoou, Friendly Islands); 1879, 9, 14 (Duke of York Island); 1880, 576 (Ruk, centr. Carolines), 115 (Ponape); Ibis, 1880, 220, 230 (Jaliut Island, Aug.), 432 (Gilbert Island); 1881, 105, 109 (Kushai), 115 (Ponape), 246 (Nawodo, July).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 472 (Ceylon).—BROOKE, Ibis, 1873, 338 (Sardinia).—TACZANOWSKI, Journ. für Orn., 1873, 101 (e. Siberia); Proc. Zool. Soc. Lond., 1874, 560 (Chorillos, Peru); Bull. Soc. Zool. France, i, 1876, 247; viii, 1883, 339 (Kamchatka); Orn. Faun. Vost. Sibir., 1877, 51; Orn. du Pérou, iii, 1886, 349.—WALDEN, Ibis, 1873, 317 (South Andaman Island); Trans. Zool. Soc. Lond., viii, 1874, 91 (Celebes).—COUES, Check List, 1873, no. 406, part; 2d ed., 1882, no. 598, part; Birds Northwest, 1874, 459, part; in Elliott's Aff. in Alaska, 1875, 180 (Pribilof Islands).—HANCOCK, Birds Northumb. and Durham, 1874, 100.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 308 (Rio Zacatula, Colima); Bull. U. S. Nat. Mus., no. 4, 1876, 46 (San Mateo, Oaxaca).—BULLER, Birds New Zealand, 1873, 221; 2d ed., 1888, 14.—SUNDEVALL, Oefv. K. Vet.-Akad. Stockholm, 1874, 20 (Spitzbergen).—SAXBY, Birds Shetland, 1874, 170 (breeding).—BLYTH, Birds Burma, 1875, 154 (Arakan).—FALLON, Ois. Belg., 1875, 155.—IRBY, Orn. Gibralt., 1875, 163.—DRESSER, Birds Europe, vii, 1875, 555, pl. 532.—LAYARD, Proc. Zool. Soc. Lond., 1875, 440 (Viti Levu); 1876, 503 (Friendly Islands), 505 (Fiji); Ibis, 1876, 152 (Koro Island, Fiji), 393 (Viti Levu); 1882, 533, 544 (New Caledonia).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 502 (Indefatigable and Bindloe Islands, Galapagos); Proc. Zool. Soc. Lond., 1883, 429 (Paracas Bay, Peru).—FRILDEN, Ibis, 1877, 405 (Smith Sound, lat. 82° 30' N.; habits); Proc. Zool. Soc. Lond., 1877, 31 (North Polar Basin).—RAMSAY, Proc. Zool. Soc. Lond., 1877, 338 (Mary and Fitzroy Rivers, Queensland); Tab. List Austral. Birds, 1888, 20.—MARIE, Ibis, 1877, 363 (New Caledonia).—DAVID and OUSTALET, Ois. Chine, 1877, 433.—OUSTALET, Bull. Soc. Philom., 1878, 183 (Seychelles).—SHARPE, Philos. Trans., vol. 168, Aves, 1878, 4 (Rodriguez); Ibis, 1879, 270 (Labuan Island, Borneo); Proc. Zool. Soc. Lond., 1881, 15 (Telcahuano, Chile); ed. Layard's Birds South Africa, 1884, 671; Cat. Birds Brit. Mus., xxiv, 1896, 92, part.—FORBES, Proc. Zool. Soc. Lond., 1878, 128 (Raine Island, Australia).—BLAKISTON and PRYER, Ibis, 1878, 219 (Yesso and Yokohama, Japan); Trans. Asiat. Soc. Japan, viii, 1880, 193; x, 1882, 108.—LAYARD (E. L. and E. L. C.), Ibis, 1878, 279 (New Hebrides). 1882, 533, 544 (Duck Island, New Caledonia).—ADAMS, Ibis, 1878, 437 (St. Michaels, Alaska; habits).—TWEEDDALE, Proc. Zool. Soc. Lond., 1878, 711 (North Bohol).—MILNE-EDWARDS and GRANDIDIER, Hist. Nat. Madagasc., Ois., 1879, 512.—LEGGE, Birds Ceylon, 1879, 900.—SEEBOHM, Ibis, 1879, 36 (Yokohama, Japan); 1880, 193 (lat. 704°, Yenesei Valley, e. Siberia); 1882, 380 (Archangel, n. Russia); 1888, 348 (Great Liakof Island, Siberia; descr. eggs and young); Geog. Distr. Charadriidæ, 1887, pp. xxv, 410, part, figs.; Birds Japanese Emp., 1890, 331 (Kuril Islands, probably breeding; s. Japan in winter).—MEYER, Ibis, 1879, 141 (Menado, Celebes); Verh. z.-b. Ges. Wien, xxxi, 1881, 767 (Seemba).—BOCAGE, Orn. Angola, 1881, 434 (Loango).—ELLIOTT, Mon. Pribylov Group, 1882, 129 (July-Sept.).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 163 (St. Paul Id. and Point Belcher, Alaska; Plover Bay, Siberia).—COCKS, Zoologist, 1882, 24 (Spitzbergen, Aug.).—KELHAM, Ibis, 1882, 11 (Moar River and Pulo Mongsu, Malay Peninsula).—NELSON,

- Cruise 'Corwin' in 1881 (1883), 82 (Aleutian Islands to Point Barrow; islands in Bering Sea).—TACZANOWSKI, Bull. Soc. Zool. France, viii, 1883, 339 (Kamchatka).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 161.—SAUNDERS, ed. Yarell's Brit. Birds, iii, 1883, 289; Proc. Zool. Soc. Lond., 1886, 49 (Diego Garcia Island, Chagos Group); Illustr. Man. Brit. Birds, 1889, 541.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 119, part.—DIXON, Ibis, 1885, '85 (St. Kilda).—SLATER (H. H.) and CARTER, Ibis, 1886, 49 (Iceland).—TAIT, Ibis, 1887, 386 (Portugal, breeding).—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 585 (Olga Bay, Korea, Sept.; crit.).—PHILIPPI, Ornith., vol. 4, 1888, 159 (Paposo, coast n. Chile).—BLASIUS, Ornith., vol. 4, 1888, 319 (Palawan, Philippines).—GIGLIOLI, Avif. Ital., pt. 1, 1889, 579; pt. 2, 1890, 661; pt. 3, 1891, 517.—CLARKE (W. E.), Zoologist, 1890, 12 (Jan Meyen Land); Ibis, 1898, 259 (Franz Josef Land, May 27).—WHITEHEAD, Ibis, 1890, 59 (Palawan, Sept.).—GRANT, Ibis, 1890, 442 (Madeira); 1896, 47 (Great Pictou, Salvage Islands).—STEELE, List Birds and Mam. Philipp., 1890, 26 (Mindanao; Negros).—SCHALOW, Journ. für Orn., 1891, 259 (Unalaska); Zool. Jahrb., Suppl. iv, Heft 3, 1898, 664 (Isla de Pajaros, Chile, Oct.).—KOENIG, Journ. für Orn., 1891, 313 (Canary Islands).—BUCKLEY and HARVIE-BROWN, Faun. Orkney Isl., 1891, 204 (breeding).—SCOTT-WILSON and EVANS, Aves Hawaiianenses, pt. iii, 1892.—MEADE-WALDO, Ibis, 1893, 204 (Canary Islands).—PEARSON and BIDWELL, Ibis, 1894, 234 (n. Norway, breeding; habits).—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 69, pl. 17.—PEARSON, Ibis, 1896, 211 (Russian Lapland), 217 (Kolguev; habits; descr. eggs), 223 (Novaya Zemlya; descr. young); 1898, 199 (Dolgoi Island and Habarova, n. e. Russia).—POPHAM, Ibis, 1897, 102 (Sibirakoff Island, 72° N.; Golchika, Yenesei River, e. Siberia); 1898, 513 (Golchika).—TREVOR-BATTYE, Ibis, 1897, 589 (Spitzbergen).—HARTERT, Novit. Zool., vii, 1900, 9 (Ruk Island, centr. Carolines), 242 (Buru); viii, 1901, 306 (Canary Islands); x, 1903, 62 (Batjan).—HENSHAW, Birds Hawaiian Islands, 1902, 86 (abundant, Aug. to May).—JESSE, Ibis, 1903, 160 (Lucknow, India).—BECK, Condor, ix, 1907, 110, in text (Cocos Island, Jan.).
- Str[ep]silas interpres* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxi, 209. [*Strepsilas*] *interpres* COUES, Key N. Am. Birds, 1872, 247, part.—SLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.
- S[trep]silas interpres* LICHTENSTEIN, Verz. Doubl., 1823, 75, part.—HARTLAUB, Journ. für Orn., 1860, 166 (Madagascar).—COUES, Key N. Am. Birds, 2d ed., 1884, 609, part.
- Strepsilas interpres a. interpres* COUES, Birds Northwest, 1874, 459, part.
- Strepsilas interpres* BROWN, Proc. Bost. Soc. N. H., xii, 1869, 207 (Madeira).
- C[incl]us interpres* GRAY, Gen. Birds, iii, 1849, 549.
- Cinclus interpres* GRAY, Cat. Birds Trop. Is. Pacific Ocean, 1859, 48; Proc. Zool. Soc. Lond., 1860, 363 (East Gilolo); List Brit. Birds, 1863, 143.—REINHARDT, Ibis, 1861, 9 (Greenland).—LAYARD, Birds S. Africa, 1867, 301.—GURNEY, in Andersson, Birds Damara-Land, 1872, 276 (Walvisch Bay).—HEUGLIN, Orn. N. O.-Afr., iii, 1037; iv, 1873, p. clxxxiii (coast of Egypt; Red Sea).
- [*Cinclus*] *interpres* GRAY, Hand-list, iii, 1871, 22, no. 10068, part.
- Cinclus (Strepsilas) interpres* DROSTE, Journ. für Orn., 1869, 342 (Färöes).
- Morinella interpres* STEINER, Proc. U. S. Nat. Mus., v, June 15, 1882, 34.
- Morinella interpres interpres* MATHEWS, Birds Australia, iii, pt. 1, April 2, 1913, 10 (Europe; w. Africa).
- Charadrius interpres* SEEBOHM, Hist. Brit. Birds, iii, 1885, 12, pl. 24, figs. 1, 3 (eggs).
- Morinella collaris* MEYER and WOLF, Taschenb. Vög. Deutschl., 1810, 388, footnote.

- Streptilas collaris* TEMMINCK, Man. d'Orn., 1815, 349; ed. 2, 1820, 553; iv, 1840, 362.—WERNER, Atlas, Coureurs, 1827, pl. 18.—FOX, Newc. Mus., 1827, 117.—LESSON, Man. d'Orn., ii, 1828, 306.—BREHM, Vög. Deutschl., 1831, 558.—GOULD, Proc. Zool. Soc. Lond., 1834, 15 (North America); Birds Europe, iv, 1837, pl. 318 and text.—KAUP, Thierr., ii, pt. i, 1838, 310.—HÖLBOLL, Naturhist. Tidskr., iv, 1843, 407 (Greenland).—TSCHUDI, Fauna Peruana, Aves, 1846, 297.—HOLM, Naturhist. Tidskr., 2d ser., ii, 1848, 488 (Färöe Islands).—KJÆRØLLING, Naumannia, i, 1850, 46 (Denmark); Danm. Fugle, 1852, pl. 31, fig. 1; Suppl., 14, fig. 3.—PÄSSLER, Journ. für Orn., 1853, 306.—SCHLEGEL, Vog. Nederl., 1854, pl. 218 and text; Dier. Nederl. Vog., 1861, pl. 22, figs. 1, 2, 2a.—KITTLITZ, Denkw., i, 1858, 287; ii, 1858, 401.—COINDE, Rev. et Mag. de Zool., 1860, 400.—GODMAN, Ibis, 1861, 86 (Norway).—HOMER, Journ. für Orn., 1862, 422 (Balearic Islands); 1870, 421 (e. Siberia).—BOIE, Journ. für Orn., 1869, 95.—HEUGLIN, Ibis, 1872, 62 (Novaya Zemlya); Journ. für Orn., 1872, 119 (Novaya Zemlya).
- St[repsilas] collaris* TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. 1, 1844, 310 (coast of Peru).
- Streptialis collaris* HAY, Proc. Zool. Soc. Lond., 1840, 135 (Tangier, Morocco).
- Charadrius cinclus* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 148 (new name for *Tringa interpres* Linnæus; Siberia; Kamchatka).
- Tringa oahuensis* BLOXHAM, in Byron's Voy. 'Blonde,' 1826, 251 (Oahu, Hawaiian Islands).
- Morinella interpres oahuensis* MATHEWS, Birds Australia, iii, 1913, 5, 10 (e. Siberia to Alaska, migrating to Australia, etc.).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, April 9, 1914, 24 (Balagan, etc., e. Siberia, breeding).
- Arenaria interpres oahuensis* OBERHOLSER, Auk, xxxiv, April, 1917, 200.—HANNA, Auk, xxxiv, 1917, 409 (St. Mathews Island, Bering Sea, July 13, 1 spec.).
- Streptilas borealis* BREHM, Vög. Deutschl., 1831, 559.
- Streptilas littoralis* BREHM, Vög. Deutschl., 1831, 560.
- Streptilas marinus* GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 221 (ex Ray).
- Streptilas minor* BREHM, Vogelf., 1855, 285.
- Arenaria cinerea* OLPHE-GAILLARD, Contr. Fauna Orn. Eur. Occid., 1889, fasc. xii, 47.
- (?) *Arenaria interpres morinella* (not *Tringa morinella* Linnæus?) HERSEY, Smithson. Misc. Coll., vol. 66, no. 2, 1916, 26 (Norton Sound to delta of Yukon, Alaska, breeding; Point Hope).

ARENARIA INTERPRES MORINELLA Linnæus.

BUDDY TURNSTONE.

Similar to *A. i. interpres*, but coloration lighter; adult male in summer with cinnamon-rufous areas on upper parts relatively much more extensive and black areas correspondingly more restricted and black streaks on pileum narrower; adult female in summer with cinnamon-rufous mostly replacing grayish brown on upper parts; wings and tail averaging decidedly shorter.

Downy young.—Above light drab to drab-gray, irregularly mottled or marbled with black; forehead buffy drab-gray, with a median elongated black spot or irregular streak; a distinct loreal streak of black, from bill to eye; under parts dull white, the chest shaded with brownish gray.

Adult male.—Wing, 139.5–155 (145.5); tail, 56.5–64 (60); exposed culmen, 21–22.5 (21.7); tarsus, 22.5–26 (24.5); middle toe, 21–23 (21.8).^a

Adult female.—Wing, 144–157.5 (148.6); tail, 57–63 (60.4); exposed culmen, 21.5–24 (22.9); tarsus, 23–25.5 (24.5); middle toe, 20.5–24 (22).^b

Breeding in Arctic America, from Mackenzie River basin to Melville Island (and, probably, Melville Peninsula); in migration southward over North America in general (except Pacific coast), chiefly along Atlantic coast, and through West Indies, Bermudas, Gulf coast of México and Caribbean coast of Central America to Brazil (coast of Piauí; São Paulo; Santa Catarina; Bahia; Cajutuba). Rather frequent, during migration, in Mississippi Valley and Great Lakes region, but rare (accidental or casual) on Pacific coast (Sunset Beach, Orange County, California, 1 spec., Sept. 20, 1907).

[*Tringa*] *morinella* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 249 (coast of Florida; based on Turnstone or Sea-Dotterel, *Morinellus marinus*, Catesby, Nat. Hist. Carolina, i, 1731, 72, pl. 72).—GMELIN, Syst. Nat., i, ii, 1789, 671.

Arenaria morinella PALMER (W.), Fur Seals and Fur Islands of North Pacific Ocean, pt. iii, 1899 (Avifauna Pribilof Islands), 412–418 (crit.; descr.).—ALLEN, Auk, xviii, 1901, 173 (reprint Palmer's descr.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xviii, 1901 (Tenth Suppl. to Check List), 297.—FLEMING, Auk, xxiii, 1906, 452 (Toronto, Ontario, regular migrant).—TAVERNER and SWALES, Wilson Bull., no. 60, 1907, 90 (Point Pelee, Ontario, regular migrant).—WILLETT, Condor, x, 1908, 50 (Sunset Beach, Orange Co., California, 1 spec., Sept. 20, 1907).

Arenaria interpres morinella AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 368; Check List, 3rd ed., 1910, 131.—CORY, Pub. 137, Field Mus. N. H., 1909, 197 (Aruba, Dutch West Indies).—BUNKER, Kansas Univ. Bull., vii, 1913, 145 (Greenwood Co., Kansas, Oct. 1, 1911).—VISHNER, Auk, xxx, 1913, 567 (Sanborn Co., South Dakota, flock, May 30, 1905).—HULL, Auk, xxxi, 1914, 399 (Lincoln Park, Chicago, Sept. 7; feeding habits).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 40 (Porto Rico, winter visitant; food).—BROOKS, Auk, xxxiv, 1917, 37 (Sumas Lake, Brit. Columbia, 1 spec., Aug. 19, 1899).

Morinella interpres morinella MATHEWS, Birds Australia, iii, pt. 1, April 2, 1913, 10 (e. North America).—BROOKS, Bull. Mus. Comp. Zool., lix, 1915, 376 (Camden Bay, Griffin Point, and Demarcation Point, Arctic coast of Alaska, June 5 and 28 and July 31).

Cinclus morinellus GRAY, List Gen. Birds, 2d ed., 1841, 85.

Tringa hudsonica MÜLLER, Natursyst., Anhang, 1776, 114 (based on Turnstone from Hudson's Bay Edwards, Nat. Hist. Birds, iii, 1750, 141, pl. 141).

Tringa . . . *interpres* (not of Linnæus, 1758) FORSTER, Philos. Trans., lxii, 1772, 412 (Severn River, Keewatin).

Tringa interpres BODDAERT, Tabl. Pl. Enl., 1783, 21 (Pl. Enl., pl. 340), 52, part (Pl. Enl., pl. 857).—WILSON, Am. Orn., vii, 1813, 32, pl. 57, fig. 1.

[*Tringa*] *interpres* LATHAM, Index Orn., ii, 1790, 738, part ("America").

[*Tringa*] *interpres* BONAPARTE, Jour. Acad. Nat. Sci. Phila., v, pt. i, 1825, 95 (crit.); Obs. Nomencl. Wilson's Am. Orn., 1826, [177].

^a Ten specimens.

^b Eleven specimens.

- Arenaria interpres* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1819, 345, part.—STEJNEGER, Auk, i, 1884, 229, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 283, part.—CORY, Auk, iii, 1886, 502 (Grand Cayman); iv, 1887, 231 (descr.; West Indian references and localities); vi, 1889, 32 (Cayman Brac); vii, 1890, 351 (Inagua Island, Bahamas), 352 (Anguilla Island); ix, 1892, 48 (Maragauna Island, Bahamas).—Birds West Ind., 1889, 231; Cat. West Ind. Birds, 1892, 95.—DWIGHT, Auk, iv, 1887, 16 (Cape Breton Island, Nova Scotia, Aug.).—WARREN, Birds Pennsylvania, 1888, 237 (Lake Erie in migr.).—(?) ZELEDÓN, Anal. Mus. Nac. C. R., i, 1888, 129 (Las Trojas, Costa Rica).—SMITH and PALMER, Auk, v, 1888, 147 (District of Columbia, 3 specs., about 1860).—SENNETT, Auk, v, 1888, 110 (Corpus Christi, Texas, common in July; breeding?).—DUTCHER, Auk, vi, 1889, 129 (Little Gull Island, New York).—CANTWELL, Auk, vi, 1889, 340 (Madison, Lac qui Parle Co., Minnesota, May, flock).—SCOTT, Auk, vi, 1889, 159 (Gulf coast Florida, May, June, Aug., and in winter); vii, 1890, 309 (Dry Tortugas); ix, 1892, 15 (Jamaica), 212 (Caloosahatchie River, Florida, winter).—CLARKE (W. E.), Auk, vii, 1890, 221 (Fort Churchill, Keewatin).—RIDGWAY, Auk, vii, 1890, 337 (Watling Island, Bahamas, March).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 75 (Trinidad).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 92, 728, part.—WOODRUFF, Auk, xiii, 1896, 181 (Cook Co., Illinois, frequent).—BUTLER, Proc. Ind. Acad. Sci., 1896, 244 (Wolf Lake, n. w. Indiana, May 23 and June 9, 1896).—COOKE, Birds Col., 1897, 69 (near Denver, April 26, 1890); Bull. 56, Col. Agric. Exp. Sta., 1900, 199 (Berkeley Lake, near Denver, 8 specs., May 18, 1900).—LANO, Auk, xvi, 1899, 76 (Lac qui Parle Co., Minnesota, May 29, 1891, May 27, 1889; Lake Minnetonka, May 24, 1888; near Mankato, about 1875).—LANTZ, Auk, xvi, 1899, 187 (near Topeka, Kansas, Aug. 16, 1898).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 345, part (Mugeres and Cozumel islands, Yucatan; Las Trojas, Costa Rica?).—JONES, Wilson Bull., no. 57, 1906, 115 (Cleveland, Ohio, in migration).—BERLEPSCH, Novit. Zool., xv, 1908, 304 (Cayenne).—VERRILL (A. E. and A. H.), Proc. Acad. Nat. Sci. Phila., 1909, 356 (Samana Bay, Haiti).—REISER, Denkw. Mat.-Nat. Kaiserl. Ak. Wiss. Wien, 1910, 95 (coast Piahy, n. e. Brazil).
- A[renaria] interpres* RIDGWAY, Man. N. Am. Birds, 1897, 180, part.
- [Arenaria] interpres* SHARPE, Hand-list, i, 1899, 146, part.
- Streptilas interpres* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, pt. i, 1825, 96; Obs. Nomencl. Wilson's Am. Orn., 1826, [178]; Ann. Lyc. N. Y., ii, 1827, 299; Geog. and Comp. List, 1838, 46, part.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 371.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 30.—JARDINE, ed. Wilson Am. Orn., ii, 1832, 324, pl. 57, fig. 1.—AUDUBON, Orn. Biog., iv, 1838, 31, pl. 304; Synopsis, 1839, 227; Birds Am., 8vo. ed., v, 1842, 231, pl. 323.—GOSSE, Birds Jamaica, 1847, 333.—JARDINE, Contr. Orn., 1849, 83 (Bermudas, winter).—HURDIS, Jardine's Contr. Orn., 1850, 9 (Bermudas, Aug. and in winter).—LEMBEYE, Aves de la Isla de Cuba, 1850, 100, pl. 15.—PUTNAM, Proc. Essex Inst., i, 1856, 216 (Massachusetts).—CABANIS, Journ. für Orn., 1856, 423 (Cuba).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 701, part.—BAIRD, Cat. N. Am. Birds, 1859, no. 515, part; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Brazos and Brownsville, Texas).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas).—MARTENS, Journ. für Orn., 1859, 218 (Bermudas).—NEWTON (A. and E.), Ibis, 1859, 256 (St. Croix, April, Sept.).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 309 (Cuba).—GUNDLACH, Journ. für Orn.,

- 1862, 88 (Cuba; crit.); 1874, 313 (Porto Rico); 1875, 331 (Cuba); 1878, 162, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 357; Orn. Cubana, 1876, 179; Anal. Soc. Esp. Hist. Nat., vii, 1878, 379 (Porto Rico).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 157 (Maine).—BLAKISTON, Ibis, 1863, 130 (York Factory, Keewatin; Mackenzie River).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 100 (Sombbrero, Greater Antilles); viii, 1866, 295 (vicinity New York City); Proc. U. S. Nat. Mus., i, 1878, 67 (Dominica), 197 (St. Vincent).—ALLEN, Proc. Essex Inst., iv, 1864, 86; Bull. Nutt. Orn. Club, v, 1880, 169 (Santa Lucia).—SALVIN, Ibis, 1864, 385 (Ellen or Curlew Cays, Brit. Honduras); 1886, 178 (Brit. Guiana).—MARCH, Proc. Ac. Nat. Sci. Phila., 1864, 66 (Jamaica).—DRESSER, Ibis, 1866, 34 (coast Texas).—MCLWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—TURNBULL, Birds E. Penn. and N. J., 1869, 38 (Phila. ed., 1869, 29).—SUNDEVALL, Cefv. K. Vet.-Ak. Förh. Stockholm, 1869, 588 (St. Bartholomew), 602 (Porto Rico).—PELZELN, Orn. Bras., 1870, 297, 455.—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Ac. Nat. Sci. Phila., 1871, 29 (Fort Macon, North Carolina); Check List, 1873, no. 406, part; 2d ed., 1882, no. 598, part; Birds Northwest, 1874, 459, part.—HARTING, Proc. Zool. Soc. Lond., 1871, 114 (Arctic America).—REID, Zoologist, 1877, 475 (Bermudas, Dec.); Bull. U. S. Nat. Mus., no. 25, 1884, 230 (Bermudas, frequent).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 160 (coast near Fort Brown, Texas, resident; breeding?).—MAYNARD, Birds E. N. Am., 1879, 366.—CORY, Birds Bahama Is., 1880, 151.—TRISTRAM, Ibis, 1884, 168 (Santo Domingo).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 119, part.—WELLS, Proc. U. S. Nat. Mus., ix, 1886, 627 (Grenada); List Birds Grenada, 1886, 7.—STAHL, Ornith., vol. 3, 1887, 452 (Porto Rico).—FEILDEN, Ibis, 1889, 492 (Barbados; habits).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 430 (Fort Anderson, etc., Arctic America).—SCLATER, Proc. Zool. Soc. Lond., 1893, 500 (Anguilla, Lesser Antilles).—HARTERT, Ibis, 1893, 307 (Aruba, Dutch West Indies).—BARBOUR, Auk, xii, 1895, 297 (Lincoln, Nebraska, May 25, 1895; 3 specs.).—KOENIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. e. Brazil).—BONHOTE, Ibis, 1903, 301 (Andros, Little Abaco, and Green Cay islands, Bahamas; crit.).—NICOLL, Ibis, 1904, 586 (Grand Cayman, March).
- [*Streptopelia*] *interpres* GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).—COUES, Key N. Am. Birds, 1872, 246, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.—CORY, List Birds West Ind., revised ed., 1886, 25.
- Streptopelia interpres* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 751.
- Streptopelia interpres* LICHTENSTEIN, Verz. Doubl., 1823, 75, part.—MAXIMILIAN, Journ. für Orn., 1859, 82 (Missouri River).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 383 (shores of Lake Michigan, Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 123 (shore Lake Michigan, n. e. Illinois, May 15 to first week in June; Aug. to Sept. 20).—NEWTON (A. and E.), Handb. Jamaica, 1881, 115.—COUES, Key N. Am. Birds, 2d ed., 1884, 609, part.
- Streptopelia interpres* PEABODY, Rep. Orn. Mass., 1839, 361.
- Streptopelia interpres* ALBRECHT, Journ. für Orn., 1861, 56 (Bahamas).
- Cinclus interpres* LÉOTAUD, Ois. Trinidad, 1866, 399.
- Morinella interpres* JORDAN, Man. Vert. E. N. Am., 4th ed., 1884, 122.
- Streptopelia collaris* (not of Temminck, 1815) BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 364 (Santa Catarina, s. e. Brazil).
- [*Tringa interpres*] β LATHAM, Index Orn., ii, 1790, 739, part (based on *Tringa morinella* Linnæus).

[*Tringa interpres*] γ LATHAM, Index Orn., ii, 1790, 739 (based on *Coulon-chaud de Cayenne* Daubenton, Pl. Enl. 340).

[*Tringa interpres*] δ LATHAM, Index Orn., ii, 1790, 739 (based on *Coulon-chaud gris de Cayenne* Daubenton, Pl. Enl. 357).

Arenaria interpres Var. A VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 346 (= *Tringa interpres* α Latham).

Arenaria interpres Var. B VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 346 (= *Tringa interpres* γ Latham).

Arenaria interpres Var. C VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 346 (= *Tringa interpres* δ Latham).

ARENARIA MELANOCEPHALA (Vigors).

BLACK TURNSTONE.

Adults in summer (sexes alike).—General color of head, neck, chest and upper parts dark sooty (clove brown to fuscous-black); lores, except posterior portion, white, usually minutely flecked with dusky, at least in part; forehead, superciliary and auricular regions (sometimes whole pileum and hindneck) streaked or flecked with white, the supra-auricular region sometimes mostly white; sides of chest spotted with white, the feathers of lower chest margined with white; rest of under parts, including axillars and under wing-coverts, immaculate white; lower back, rump, and posterior upper tail-coverts immaculate white, the anterior upper tail-coverts sooty black; wings dusky, like back, etc., but proximal smaller coverts, broad tips to greater coverts, whole of proximal secondaries, narrow tips to other secondaries, broad edgings to elongated posterior scapulars and tertials, and basal portion of outer webs of proximal primaries white; tail white basally and terminally, crossed by a broad subterminal band of blackish.

Winter plumage.—Similar to the summer plumage but color of throat; chest, and sides of head much lighter (hair brown, more or less deep), the feathers of chest distinctly darker centrally, and without any white markings on head, neck, or chest.

Young.—Similar to winter adults, but scapulars, interscapulars, and feathers of chest narrowly margined with pale dull buffy or dull whitish, and tail tipped with light grayish brown instead of white.

Adult male.—Wing, 138–149 (144.3); tail, 58–66 (60.1); exposed culmen, 21–23.5 (22.2); tarsus, 24–26 (24.9); middle toe, 22–24.5 (23.2).^a

Adult female.—Wing, 141–153.5 (148.7); tail, 58–64 (60.1); exposed culmen, 22–24 (22.9); tarsus, 23–25.5 (24.7); middle toe, 22–24 (23.3).^b

Breeding along Bering Sea and western Arctic coasts of Alaska, from Kotzebue Sound to valley of lower Yukon River (to Cook Inlet?); in migration southward along Pacific coast of southern Alaska,

^a Ten specimens.

^b Eight specimens.

British Columbia, and United States to coasts and islands of Lower California (San Martin, San Miguél, San Gerónimo, Santa Margarita, Natividad, and Los Coronados islands); casual at Point Barrow, Alaska, and in northeastern Siberia (Wrangel Island; Chaun Bay); accidental in India.

Streptilas melanocephalus VIGORS, Zool. Journ., iv, 1829, 356 (northwest coast of North America); Zool. Voy. 'Blossom,' Birds, 1839, 29 (no locality mentioned).—BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 334 (Monterey, California).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 702; ed. 1860 (Birds N. Am.), pl. 7.—BROWN, Ibis, 1868, 424 (Vancouver Island).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 124.—SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxv, 411.

S[trepilas] melanocephalus GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser, i, 1849, 220 (coast California).—COUES, Key N. Am. Birds, 2d ed., 1884, 609.

Streptilas melanocephala BAIRD, Cat. N. Am. Birds, 1859, no. 516.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 290 (St. Michaels and Nulato, Alaska).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am. Birds, no. 510); Nom. N. Am. Birds, 1881, no. 510.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 163 (Echscholtz Bay, Alaska, Sept.).—NELSON, Cruise 'Corwin' in 1881 (1883), 83 (coast Norton Sound, etc., Alaska; Wrangel Island; crit.).—MCLENNAN, Cruise 'Corwin,' 1884, 119 (Kowak River or Hotham Inlet, n. w. Alaska).

Morinella melanocephala STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 34.—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 24 (Chaun Bay, e. Siberia, Aug. 15).

Arenaria melanocephala STEJNEGER, Auk, i, July, 1884, 229.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 234; 3rd ed., 1910, p. 132.—TURNER, Contr. N. H. Alaska, 1886, 150 (St. Michaels, Kuskokwim River, Belkofsky, Unga Island, and Sanak Island, Alaska; habits).—NELSON, Rep. N. H. Coll. Alaska, 1887, 129 (coasts Bering Sea; Point Barrow; habits).—TOWNSEND (C. H.), Auk, iv, 1887, 12 (Kowak River, n. w. Alaska, July, Aug.); Cruise 'Corwin' in 1885 (1887), 92 (Kowak Delta, July 4; Hotham Inlet).—BRYANT (W. E.), Proc. Calif. Ac. Sci., ser. 2, ii, 1889, 275 (San Martin Island and Santa Margarita Island, Lower California).—ELLIOT, N. Am. Shore Birds, 1895, 204, pl. 69.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 103, 729.—GRINNELL (J.), Pub. 1, Pasadena Ac. Sci., 1897, 26 (San Clemente Island, California, March).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 235 (Homer, Cook Inlet, Alaska, June 28); xx, 1904, 401 (Bird Island, near Homer, Alaska).—GRINNELL and DAGGETT, Auk, xx, 1903, 33 (Los Coronados Islands, Lower California, Aug.).—THAYER and BANGS, Condor, ix, 1907, 80 (Natividad Island, Lower California, April).—LINTON, Condor, x, 1903, 126 (Santa Cruz Island, California).—WRIGHT, Condor, xi, 1909, 100 (Los Coronados Islands).—HERSEY, Smithsonian Misc. Coll., vol. 66, no. 2, 1916, 26 (St. Michaels and mouth of Yukon River, Alaska).—GIANINI, Auk, xxxiv, 1918, 399 (Stepovak Bay, Alaska Peninsula, May 25).

A [renaria] melanocephala RIDGWAY, Man. N. Am. Birds, 1887, 181.

[Arenaria] melanocephala SHARPE, Hand-list, i, 1899, 146.—FORBES and ROBINSON Bull. Liverp. Mus., ii, no. 2, 1899, 62.

[Streptilas interpres] Var. *melanocephalus* COUES, Key N. Am. Birds, 1872, 246.

Streptilas interpres ... var. *melanocephalus* COUES, Check List, 1873, no. 406a.

Streptilas interpres melanocephalus COUES and KIDDER, Bull. U. S. Nat. Mus., no. 7, 1877, 17 (San Geronimo Island, Lower California).—COUES, Check List, 2d ed., 1882, no. 599.

[Streptilas interpres] b. *melanocephalus* COUES, Birds Northwest, 1874, 459.

Charadrius melanocephalus SEEBOHM, Hist. Brit. Birds, iii, 1885, 12.

Family APHRIZIDÆ.

THE SURF BIRDS.

- > *Streptilasinae* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143 (includes *Arenariidæ*).
- > *Streptilidæ* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 107, 118. (includes *Arenariidæ*).
- = *Aphrizinae* COUES, Key N. Am. Birds, 2d ed., 1884, 605.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 164; 3rd ed., 1910, 131.
- > *Aphrizidæ* COUES, Key N. Am. Birds, 2d ed.; 1884, 605, in text (includes *Arenariidæ*).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 164; 3rd ed., 1910, 131 (includes *Arenariidæ*).—RIDGWAY, Orn. Illinois, ii, 1895; 18, 20 (includes *Arenariidæ*).
- = *Aphrizidæ* SHUFELDT, Journ. Morph., ii, no. 2, Nov., 1888, 338.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.

Medium-sized Charadrii with a well-developed though small hallux, anterior toes margined laterally by a conspicuous tumid membrane or pad, acrotarsium (but not planta tarsi) regularly transversely scutellate, bill plover-like (swollen distally, contracted proximally), and tip of tail emarginate.

The Aphrizidæ are medium-sized plover-like birds, more nearly related to the Turnstones (*Arenariidæ*) than to the true plovers (*Charadriidæ*) though much nearer the latter in the form of the bill. With the *Arenariidæ* the Aphrizidæ agree in the stout legs and feet, well-developed hallux, and scutellate acrotarsium, though differing, besides in the form of the bill, which is very unlike in the two groups, in the emarginate tail, reticulate instead of scutellate planta tarsi, and strongly developed lateral tumid membrane to the anterior toes.

The Surf Birds comprise a single monotypic genus, restricted in its range to the Pacific coast of America.

The single genus representing this family has sometimes been placed with the *Charadriidæ* and sometimes with the *Arenariidæ*, but is quite distinct from either. From the former the Aphrizidæ differ in the completely cleft anterior toes, with distinct lateral serrated membrane; well-developed and nearly incumbent hallux, robust feet (which are even stouter than those of the *Arenariidæ*), and emarginate tail. The differences between Aphrizidæ and *Arenariidæ* are equally marked and may be concisely stated as follows:

- a. Bill distinctly convex terminally and constricted subterminally, neither the maxilla nor mandible depressed terminally; lateral grooves of bill extending to base of convex terminal portion; legs and feet much more robust, the lateral membrane of anterior toes more strongly developed, distinctly roughened or serrate; transverse scutella of acrotarsium broken into hexagonal scales on upper and lower portions; planta tarsi reticulate; tail emarginate.....Aphrizidæ.
- aa. Bill tapering to the acute tip, not constricted subterminally, both maxilla and mandible flattened at tip; lateral grooves of bill extending not more than half way to tip; legs and feet more slender, the lateral membrane of anterior toes less developed, smoother; transverse scutella of acrotarsium continuous; planta tarsi scutellate; tail truncate.....Arenariidæ.

Genus *APHRIZA* Audubon.

Aphriza^a AUDUBON, Orn. Biog., v, 1839, 249; Synopsis Birds N. Am., 1839, 225.

(Type, *A. townsendii* Audubon = *Tringa virgata* Gmelin.)

Medium sized (wing 164–183 mm.), stoutly built Charadrii with plover-like bill, well-developed hallux, partly scutellate acrotarsium reticulate planta tarsi, and emarginate tail.

Bill shorter than head, plover-like (distinctly constricted subterminally and convex terminally in lateral profile), the maxilla with a broad cuneate groove extending from base to slightly beyond base of arched terminal portion, its basal half, more or less, occupied by the membranous nasal fossa, in the lower edge of which is situated the subbasal, longitudinally linear nostril; culmen about half as long as middle toe, without claw; depth of bill at base equal to a little more than one-third the length of culmen. Wing long and pointed, the longest primary (outermost) extending beyond tips of longest tertials. Tail more than one-third as long as wing, truncate when spread, slightly but distinctly emarginate when closed. Tarsus decidedly longer than exposed culmen, the acrotarsium with a single row of rather broad transverse scutella, but those on upper and extreme lower portions broken into rather large hexagonal scales, the tarsus otherwise covered with rather small hexagonal or irregular scales; middle toe decidedly shorter than tarsus, the outer toe decidedly shorter, the inner still shorter; hallux well developed though small and slender, about as long as middle phalanx of middle toe; claws small, strongly curved; anterior toes fringed with a distinct lateral serrated membrane, the interdigital spaces cleft to the base.

Coloration.—Upper tail coverts, basal half and tip of tail, broad band across tips of greater wing-coverts, and most of underparts of body white; summer adults with head, neck, back, and scapulars streaked and spotted with dusky and whitish, the scapulars with a few irregular markings of cinnamon-rufous; winter adults with head, neck, chest, and most of upper parts plain dusky grayish brown; young like winter plumage but general color lighter brownish gray, the feathers margined with whitish.

Range.—Pacific coast of America, from Alaska to Chile. (Monotypic.)

APHRIZA VIRGATA (Gmelin).

SURF BIRD.

Adults in breeding plumage (sexes alike).—Head and neck, all round, streaked with blackish and grayish white, the blackish streaks broadest on pileum, narrowest on throat, which, together with chin, is sometimes immaculate white or only sparsely flecked with dusky, the whitish streaks on pileum sometimes tinged or suffused with grayish buff; scapulars and interscapulars black centrally, more or less

^a From *Ἀφρος*, foam; *ζᾶω*, to live. (Audubon.)

broadly margined with gray or grayish white, the posterior scapulars with a greater or less number of large blotches or irregular spots of cinnamon-rufous and with a subterminal bar or transverse spot and mesial streak of black; wing-coverts and tertials brownish gray, darker centrally; secondaries brownish gray tipped with white, the innermost (proximal) ones mostly white; primary coverts grayish black or dusky, tipped with white; primaries similar but becoming more grayish proximally and white basally; rump dusky, the feathers narrowly margined with paler (grayish or whitish); upper tail-coverts and basal portion of tail white, this increasing in extent on lateral rectrices, the distal portion of tail dusky grayish (blackish on middle rectrices) narrowly margined at tip with whitish; under parts of body white, the chest and breast tinged with pale brownish gray and heavily marked with broad crescentic or V-shaped bars of black, the sides and flanks with more scattered broad V-shaped, sagittate, or subcordate markings of blackish, the under tail-coverts with narrower, more cuneate streaks of the same; axillars and greater part of underwing-coverts immaculate white, the coverts near edge of wing grayish dusky margined with white, the under primary coverts pale gray margined with white; under surface of primaries white basally, shading into brownish gray distally; bill black terminally, the maxilla brownish and mandible light yellowish brown (orange in life?) basally; iris dark brown, the naked eyelids black; legs and feet olive-green or bluish green (in life).

(In midsummer black greatly predominates on interscapulars, and the cinnamon-rufous markings on scapulars fade into pale buffy.)

Winter plumage.—General color of head, neck, chest, and upper parts plain brownish gray (between mouse gray and hair brown), slightly paler on foreneck, the pileum (at least the crown) broadly and more or less distinctly streaked with dusky, the scapulars and interscapulars with more or less distinct shaft-streaks of dusky, the neck (all round) and upper chest with narrow dusky streaks (sometimes obsolete below), the lower chest with more or less distinct transverse spots of dusky; a supra-loral spot (on each side of forehead), chin, and throat, white, sparsely and minutely flecked with dusky; underparts of body white, the breast, sides and flanks with more or less numerous streaks or spots (usually both) of dusky grayish, of variable size and form; otherwise, like summer adults.

Young.—Much like winter adults but scapulars, interscapulars, and wing-coverts margined terminally with whitish, these whitish margins immediately preceded by a submarginal U-shaped line of dusky, the whitish margins broader on wing coverts; head and neck streaked with pale gray or whitish, feathers of chest broadly margined with whitish, the breast and sides with rather small, subcordate spots of light brownish gray.

Adult male.—Wing, 164–183 (170.9); tail, 63–69 (65.2); exposed culmen, 23.5–26 (24.2); tarsus, 29–30.5 (29.6); middle toe, 23–24.5 (23.9).^a

Adult female.—Wing, 169–181 (176); tail, 64–66 (65); exposed culmen, 23–26 (24.9); tarsus, 29–31.5 (30.5); middle toe, 23–26 (24).^b

Pacific coast of America, from Kotzebue Sound, Alaska, to Straits of Magellan (Van Island, Feb. 13); breeding range unknown, but probably interior of northwestern Alaska; in migration, from Kowak River and Kotzebue Sound along coast of Alaska (St. Michaels; Sannak Island; Kadiak Island; Kuiu Island; Prince William Sound; Sitka, July 21), British Columbia (Vancouver Island; Orcas Island; Quatrino, July 31) and Washington to Oregon (Yaquina Bay, April 25); winters from Monterey, California (Jan. 31) southward.

[*Tringa*] *virgata* GMELIN, Syst. Nat., i, pt. ii, 1789, 674 ("Sandwich Sound" = Prince William Sound, Alaska; based on *Streaked Sandpiper* Latham, Gen. Synop. Birds, iii, pt. i, 1785, 180).—LATHAM, Index Orn., ii, 1790, 735.—TURTON, Syst. Nat., i, 1806, 405.

Aphriza virgata GRAY, Gen. Birds, iii, 1847, pl. 147 (winter plumage).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 698.—BAIRD, Cat. N. Am. Birds, 1859, no. 511.—SCLATER, Proc. Zool. Soc. Lond., 1859, 236 (Vancouver Island); 1867, 339 (Chile).—BROWN, Ibis, 1868, 424 (Vancouver Island).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 290 (Sitka).—ORTON, Am. Nat., iv, 1871, 716 (type of *A. townsendi* Audubon in coll. Vassar College).—COUES, Check List, 1873, no. 403; 2d ed., 1882, no. 594.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 307 (Colima, w. Mexico).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am. Birds, no. 511); Nom. N. Am. Birds, 1881, no. 511.—SHARPE, Proc. Zool. Soc. Lond., 1881, 15 (Van Island, Straits Magellan); Cat. Birds Brit. Mus., xxiv, 1896, 208 (St. Michaels, Alaska; Orcas Island and Vancouver Island, Brit. Columbia; Chile; Van Island, Straits Magellan), 739 (Vancouver Island; Lower California).—NELSON, Cruise "Corwin" in 1881 (1883), 83 (St. Michaels, Alaska); Rep. N. H. Coll. Alaska, 1887, 127 (Sitka; St. Michaels; descr. young).—BAIRD, BREWER,

^a Ten specimens.

^b Seven specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Alaska (Sitka).....	170.3	64.7	24.2	29.2	23.8
One adult male from Oregon.....	170	66.5	23.5	29	23.7
One adult male from California.....	168	63.5	24.5	29.5	23
Four adult males from Lower California.....	173.2	65.5	24.6	29.7	23.9
One adult male from southwestern Mexico (Rio Zacatulo, Co- lima).....	175.5	65	23.5	30.5	24.5
FEMALES.					
One adult female from British Columbia.....	181	66	26	31	23
One adult female from California (San Francisco).....	178	65.5	25.5	31.5	24
Five adult females from Lower California.....	174.6	64.7	24.5	30.2	24.2

- and RIDGWAY, Water Birds N. Am., i, 1884, 126.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 282; 3d ed., 1910, p. 131.—TACZANOWSKI, Orn. du Pérou, iii, 1886, 348.—TURNER, Contr. N. H. Alaska, 1886, 150 (Sannak Island; Kadiak).—ELLIOT, N. Am. Shore Birds, 1895, 197, pl. 67.—OUSTALET, Miss. Sci. Cap Horn, 1891, 294.—JAMES, New List Chilian Birds, 1892, 11.—HARTERT, Novit. Zool., ix, 1902, 605 (near Vaquaria, n. w. Ecuador, Sept. 16).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 353 (Colima; Peru; Chile).—SWARTH, Univ. Calif. Pub. Zool., vii, 1907, 55 (Kuiu Island, s. Alaska, April 25–May 6, abundant).—DABBENE, Orn. Argentina, 1910, 216 (Straits Magellan).
- A[phriza] virgata* GRAY, Gen. Birds, iii, 1847, 548.—COUES, Key N. Am. Birds, 2d ed., 1884, 605.—RIDGWAY, Man. N. Am. Birds, 1887, 180.
- [Aphriza] virgata* COUES, Key N. Am. Birds, 1872, 245.—SCLATER and SALVIN, Nom. N. Am. Birds, 1873, 143.—SHARPE, Hand-list, i, 1899, 152.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 67 ("Hudson Bay"; Peru; "Bolivia"; Chile).
- Totanus virgatus* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 413.
- Streptilas virgata* SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursoree), 1865, 45.
- Streptilas virgatus* SEEBOHM, Geog. Distr. Charadr., 1887, pp. xxv, 412.
- [Tringa] borealis* GMELIN, Syst. Nat., i, pt. ii, 1789, 674 ("King George's Sound"; based on *Boreal Sandpiper* Latham, Gen. Synop. Birds, iii, pt. i, 1785, 181).—LATHAM, Index Orn., ii, 1790, 735 (King George Bay).
- Streptilas borealis* GAY, Hist. Chil., Zool., i, 1847, 408.
- [Streptilas] borealis* PHILIPPI, Ornith., vol. 4, 1888, 159 (Paposo, n. Chile).
- Vanellus borealis* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 210.
- [Aphriza] borealis* BONAPARTE, Compt. Rend., xliii, 1856, 420.—GRAY, Hand-list, iii, 1871, 22, no. 10070.
- Tringa townsendi* AUDUBON, Orn. Biog., v, 1839, 249 (Cape Disappointment, Washington; type now in coll. mus. Vassar College).
- Frinca* [typog. error] *townsendi* TOWNSEND, Narrative, 1839, 349.
- Aphriza townsendi* AUDUBON, Orn. Biog., v, 1839, 249; Birds Am., 8^{vo} ed., v, 1842, 228, pl. 322.
- Aphriza townsendii* AUDUBON, Synopsis, 1839, 226.—TOWNSEND, Journ. Sc. Nat. Sci. Phila., 1839, 156.—FRASER, Proc. Zool. Soc. Lond., 1844, 157 (Chile).
- Charadrius winterfeldti* TSCHUDI, Wiegmann's Archiv für Naturg., ix, pt. i, 1843, 338 (coast of Peru; type possibly now in coll. Liverpool Mus.; see Forbes and Robinson, Bull. Liverpool Mus., ii, no. 2, 1899, 67).
- Ch[aradrius] winterfeldti* TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 310 (Peru).
- Ch[aradrius] winterfeldtii* TSCHUDI, Fauna Peruana, Aves, 1844, 295, pl. 34.

Family CHARADRIIDÆ.

THE PLOVERS.

- > *Charadriidæ* CASSIN, in Baird Rep. Pacific R. R. Surv., ix, 1858, 689, 690 (includes *Aphrizidæ*).
- > *Charadriidæ* CARUS, Handb. Zool., i, 1868, 337 (includes *Glareolidæ*).—COUES, Key N. Am. Birds, 1872, 242 (includes *Aphrizidæ*); 2d ed., 1884, 597.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142 (includes *Aphrizidæ*, *Arenariidæ*, and *Hæmatopodidæ*).—SHARPE, Review Rec. Att. Classif. Birds, 1891, 73 (includes *Aphrizidæ* and *Arenariidæ*).
- = *Charadriinæ* STEJNEGER, Standard Nat. Hist., iv, 1885, 99, in text.

- > *Charadriinæ* COUES, Key N. Am. Birds, 2d ed., 1894, 597 (includes Aphrizidæ).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142 (includes Aphrizidæ and Arenariidæ).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 350 (includes Aphrizidæ).
- > < *Charadriinæ* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, x, 90, 145; Hand-list, i, 1899, xv, 150 (includes Aphrizidæ; excludes "*Lobivanellinæ*").
- < *Charadriidæ* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108, 128 (excludes *Anarhynchus*).
- = *Charadriidæ* AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 160; 3d ed., 1910, 126.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.
- < *Lobivanellinæ* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, x, 90, 122; Hand-list, i, 1899, xv, 148 (genera *Oreophilus*, *Erythrogonyx*, *Defilippia*, *Sarciophorus*, *Lobipluvia*, *Microsarcopterus*, *Hoploxypterus*, *Ptiloscelys*, and *Lobivanellus*).
- < *Anarhynchidæ* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108,

Large to very small Charadrii with bill shorter than head, more or less swollen terminally and contracted in middle portion; hallux usually absent, rarely well developed, never as long as basal phalanx of outer toe; tarsus without regular transverse scutella, either before or behind, but covered all round with small hexagonal scales, these usually larger, and sometimes with transverse tendency, on the acrotarsium, where, however, never forming a single continuous series.

The Charadriidæ are small or medium sized (sometimes rather large) coursing birds (scarcely waders) with pigeon-like bill, relatively large, round head, short neck, long and pointed wings, moderately long legs with reticulated tarsi and relatively short toes, of which the hinder one or hallux is usually wanting and never very large. They frequent meadows, sea-shores, and other open tracts, whether grassy, barren, or sandy, and run swiftly along the ground in a peculiarly graceful manner. Many of them have melodious notes, though no true song.

The family is cosmopolitan, but not very numerous as to species, America possessing about twenty-five, belonging to about thirteen genera, of which three species (representing two Palearctic and one cosmopolitan genera) are properly stragglers from the Old World.

KEY TO THE AMERICAN GENERA OF CHARADRIIDÆ.

- a. Head crested; plumage of upper parts more or less metallic; large (wing more than 210 mm.).
- b. Crest slender, pointed, recurved; hallux well-developed; wing rounded, the outermost primary shorter than fourth (from outside).
- c. Wing unarméd or with metacarpal spur very small (rudimentary); tarsus not more than twice as long as middle toe.....*Vanellus* (p. 64).
- cc. Wing armed with a very prominent sharp, curved-conical metacarpal spur; tarsus more than twice as long as middle toe....*Belonopterus* (extralimital) ^a

^a *Belonopterus* Reichenbach, Handb. (Av. Syst. Nat.), 1853, p. xviii (type, by original designation, *Charadrius cayennensis* Gmelin). (South America; three species.)

- bb. Crest "bushy," decumbent; hallux absent; wing pointed, the outermost primary longest or equal to the longest.....*Ptiloscelys* (extralimital).^a
- aa. Head not crested; plumage without metallic colors; smaller (wing less than 210 mm.).
- b. Tarsus longer than middle toe with claw.
- c. Culmen shorter than middle toe with claw; tarsus less than two and a half times as long as middle toe without claw.
- d. Hallux absent or else (*Squatarola*) culmen longer than middle toe without claw, bill stout, and upper parts spotted.
- e. Wing with a small blunt metacarpal spur; upper parts black, gray, and white, in large, mostly longitudinal, areas.....*Hoploxypterus* (p. 69).
- ee. Wing without metacarpal spur; upper parts not colored as above.
- f. Larger (wing more than 150 mm.); upper parts much spotted or speckled, lower parts (in summer adults) mostly black.
- g. Hallux present but minute; bill much larger and stouter, the culmen as long as middle toe without claw, the gonydeal angle prominent; upper parts spotted with white.....*Squatarola* (p. 72).
- gg. Hallux absent; bill much smaller and more slender, the culmen decidedly shorter than middle toe without claw, the gonydeal angle not prominent; upper parts spotted with yellow....*Pluvialis* (p. 79).
- ff. Smaller (wing less than 150 mm.); upper parts chiefly plain brownish gray or grayish brown, the lower parts never mostly black.
- g. Posterior processes of sternum projecting backward nearly to extremity of keel, the outer pair somewhat everted; culmen not longer than distance from its base to anterior angle of eye.....*Eudromias* (p. 94).
- gg. Posterior processes of sternum much shorter, not projecting backward nearly to the extremity of the keel, the outer pair not everted; culmen much longer than distance from its base to anterior angle of eye.
- h. Exposed culmen more than twice as long as middle toe without claw; upper parts striped with buff..*Oreophilus* (extralimital).^b
- hh. Exposed culmen less than twice as long as middle toe without claw; upper parts not striped.
- i. Tail much more than half as long as wing, decidedly to strongly graduated; chest with two black bands, separated by a white one; rump ochraceous or ochraceous-cinnamon, in contrast with grayish brown of back.....*Oxyechus* (p. 98).
- ii. Tail much less than half as long as wing, truncate, or very slightly rounded or double-rounded; chest with a single black band or none; rump grayish brown, concolor with back.
- j. Tarsus more than twice as long as middle toe without claw.
Podasocys (p. 104).
- jj. Tarsus not more (usually much less) than twice as long as middle toe without claw.

^a *Ptiloscelys* Bonaparte, Compt. Rend., xliii, 1856, 419 (type, by monotypy, *Vanellus resplendens* Tschudi).—*Ptiloscelis* (emendation) Sharpe, Cat. Birds Brit. Mus., xxiv 1896, 137. (Pacific coast of South America; monotypic.)

^b *Oreophilus* Jardine and Selby, Illustr. Orn., iii, 1835, pl. 151 (type, by original designation and monotypy, *O. tenuirostris* Jardine and Selby=*Charadrius ruficollis* Wagler). *Oreophilus* (emendation) Agassiz, Nom. Zool., Aves, 1842, 53.—*Dromicus* Lesson, Echo du Monde Savant, April 4, 1844, col. 616 (type, by original designation and monotypy, *D. lessoni* Lesson=*Charadrius ruficollis* Wagler). (Southern South America; monotypic.)

- i. Culmen more than one-sixth as long as wing, more than two-thirds as long as tarsus, the bill very stout.....*Pagolla* (p. 107).
- ii. Culmen less than one-sixth as long as wing, less than two-thirds as long as tarsus, the bill slender or small. *Charadrius* (p. 114).
- dd. Hallux present (well-developed but small); culmen much shorter than middle toe without claw; upper parts unicolorous....*Zonibyx* (extralimital).^a
- bb. Tarsus shorter than middle toe with claw.....*Pluvianellus* (extralimital).^b

Genus VANELLUS Brisson.

Vanellus BRISSON, Orn., v, 1760, 94. (Type, by tautonymy, *Tringa vanellus* Linnæus.)

Gavia (not of Forster, 1788, nor of Boie, 1822) GLOGER, Hand- und Hilfsbuch, i, 1842, 433. (Type, *Tringa vanellus* Linnæus.)

Large Charadriidæ (wing 211–233 mm.) with a slender, recurved occipital crest, without obvious or with rudimentary wing-spurs, and with color of upper parts partly metallic.

Bill relatively small and slender, much shorter than head, the exposed culmen about as long as middle toe without claw; nasal fossa extending for about two-thirds the length of maxilla. Wing large, pointed, the longest primaries exceeding distal secondaries by much more than one-third the length of wing, and extending decidedly beyond tips of longest tertials; second or second and third primaries (from outside) longest, the first (outermost) shorter than third. Tail nearly half as long as wing, truncate or very slight emarginate (the middle pair of rectrices slightly shorter than the rest). Tarsus about one-fifth as long as wing, covered all round with small hexagonal scales, these larger in front; bare portion of tibia about as long as culmen; middle toe, without claw, much more than half as long as tarsus, the outer and inner toes, successively, decidedly shorter; hallux present but small, its claw well-developed, but straight; a small web between basal phalanges of outer and middle toes.

Coloration.—Adults with pileum, a broad jugular area, primaries and distal portion of tail black; general color of upper parts moderately metallic greenish and purplish; under parts and proximal portion of tail white, the tail-coverts cinnamomeous; sexes alike.

Range.—Europe and northern Asia, south in winter to China, northern Africa, northern India, etc.; accidental in eastern North America. (Monotypic.)

^a *Zonibyx* Reichenbach, Handb. (Av. Syst. Nat.), 1853, p. xviii (type, by original designation and monotypy, *Vanellus cincta* Lesson = *Charadrius modestus* Lichtenstein.) (Southern South America; monotypic.)

^b *Pluvianellus* Jacquin and Pucheran, Voy. Pôle Sud, Zool., iii, 1853, 124 (type, by original designation, *P. sociabilis* Jacquin and Pucheran). (Southern South America; monotypic.)

This genus I have not been able to examine. It may, possibly, not belong to the true Charadriidæ, as here restricted.

VANELLUS VANELLUS (Linnaeus).

LAPWING.

Adults in breeding plumage (sexes alike).^a—Pileum (including crest), anterior portion of loreal and malar regions, chin, throat, foreneck, and entire chest uniform, faintly glossy, blue-black; sides of head and neck white, passing into gray on hindneck; back, scapulars, and tertials metallic bronzy green changing to coppery purple on outer scapulars; wing-coverts dark purplish blue, changing to greenish, becoming decidedly green on greater coverts; remiges dull black, the tips of the three outer primaries, for an inch or more, light gray with white shafts; rump like back but less strongly metallic; upper tail-coverts cinnamon-rufous; tail with basal half and tip white, the middle (subterminal) portion dull black, this color decreasing (and the white correspondingly increasing) in extent to the outer rectrices, nearly (sometimes quite) disappearing on outermost pair; under parts, posterior to chest, immaculate white, passing into light cinnamon-rufous on under tail-coverts; bill black; iris dark brown; legs and feet lake red or fleshy red (in life).

Winter plumage.—Similar to the summer plumage but with the black on anterior portion of loreal and malar regions replaced by white; a broad superciliary stripe, chin, and entire throat white, and the white along sides of hindneck and occiput tinged with buff.

Young.—Similar to winter adults but color of hindneck, back, rump, etc., scarcely metallic olive or brownish olive, all the feathers tipped or terminally margined with light rusty or tawny-olive, as are also the wing-coverts; black of chest much duller, and crest absent or but slightly developed.

Downy young.—Upper parts grayish brown (drab) coarsely mottled or marbled with black, interrupted by a broad band of immaculate pale brownish buff or buffy white across hindneck; lower portion of lores, anterior half (approximately) of malar region, chin and throat immaculate dull white or buffy white; suborbital and auricular regions pale buffy brown or pale drab with irregular blotches and streaks of black along lower edge, connected, more or less, with a blackish band across lower foreneck or upper chest; rest of under parts immaculate buffy white, strongly tinged posteriorly with brownish buff.

^a In Bull. Brit. Orn. Club, xiv, 1904, 62, Mr. F. W. Frohawk distinguishes the sexes by a difference in the wing-formula; the male having the second primary (from outside) equal to the fourth, the third longest, the first equal to the seventh, while the female has the second and third equal and longest, the first equal to the fourth. I have not been able, however, to verify this supposed difference in the sexes, some specimens having *neither* formula.

Adult male.—Wing, 211–233 (220.7); tail, 94–120 (106); culmen, 23–27.5 (24.6); tarsus, 43.5–50.5 (46.8); middle toe, 25–28 (26).^a

Adult female.—Wing, 212–225 (219.3); tail, 100–108 (105); culmen, 23.5–26 (24.8); tarsus, 42–49.5 (45.1); middle toe, 25–27 (25.8).^b

Breeding in extratropical Europe and Asia, southward to central Europe and China; in winter southward to northern Africa and India; casual in Greenland (Fiskenaesset, Jan. 7, 1820; Julianshaab, 1847), Newfoundland (White Hills, Nov. 23, 1905), Nova Scotia (Ketch Harbor, March 17, 1897), Long Island, New York (Merrick, 2 specs., Dec., 1885; Meccox Bay, Waterville, autumn, 1905), Bahamas (Hog Island, Nov., 1900), Barbados (Dec. 24, 1886), and western Alaska (small islands in Norton Sound).

[*Tringa*] *vanellus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148 (Sweden); ed. 12, i, 1766, 248.—BODDAERT, Tabl. Pl. Enl., 1783, 15 (Pl. Enl., pl. 242).—GMELIN, Syst. Nat., i, pt. ii, 1789, 670.—LATHAM, Index Orn., ii, 1790, 726.

Tringa vanellus TEMMINCK, Cat. Syst., 1807, 172.

[*Charadrius*] *vanellus* WAGLER, Syst. Av., 1827, Charadrius, sp. 47.

Charadrius vanellus PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 132.—NAUMANN, Vög. Deutschl., ix, 1838, 269, pl. 179.—HOLM, Naturhist. Tidskr., 2d ser., ii, 1848, 512 (Färöe Islands).—PÄSSLER, Journ. für Orn., 1856, 61 (Anhalt, Germany).—SEEBOHM, Ibis, 1882, 222 (Astrakhan), 425 (Samarcand).

Vanellus vanellus AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 269; 3d ed., 1910, p. 126.—DUTCHER, Auk, iii, 1886, 438 (Merrick, Long Island, 2 specs., late Dec., 1883).—CORY, Birds West Ind., 1889, 297 (Barbados); Cat. West Ind. Birds, 1892, 138.—ELLIOT, N. Am. Shore Birds, 1895, 163, pl. 52.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 166, 735.—PIERS, Auk, xv, 1898, 195 (Ketch Harbor, Nova Scotia, 1 spec., March 17, 1897).—FLEMING, Auk, xviii, 1901, 272 (Hog Island, Bahamas, 1 spec., Nov., 1900).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands).—POGGE, Journ. für Orn., 1902, 386 (n. e. China).—HARTERT and GRANT, Novit. Zool., xii, 1905, 103 (San Miguel, Azores).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 248 (Barbados).—BEEBE, Auk, xxiii, 1906, 221 (Meccox Bay, Waterville, Long Island, 1 spec., fall 1905).—BREWSTER, Auk, xxiii, 1906, 221 (White Hills, Newfoundland, 1 spec., Nov. 23, 1905).

[*Vanellus*] *vanellus* RIDGWAY, Man. N. Am. Birds, 1887, 172.

[*Vanellus*] *vanellus* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 95.—SHARPE, Hand-list, i, 1899, 151.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 65.

^a Eleven specimens.

^b Seven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Europe (4) and western Asia (2).....	220.7	104.3	23.9	46.1	26
Five adult males from China.....	220.8	106.6	26.1	47.4	26.2
FEMALES.					
Four adult females from Europe (3) and Egypt (1).....	220.5	104	24.7	43.7	25.6
Three adult females from China (1) and Japan (2).....	217.7	106.3	24.8	46.8	26

- Vanellus capella* SCHAEFFER, Mus. Orn., 1789, 49 (no locality cited).—STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 34.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 130.—GIGLIOLI, Avif. Ital., 1886, 376; 1st Resoc. Avif. Ital., 1889, 576; 2d Resoc., 1890, 663; 3d Resoc., 1891, 518.—SALVADORI, Elenco Ucc. Ital., 1886, 206.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 51.—HARTING, Journ. für Orn., 1893, 10 (Madeira Islands).
- Vanellus vulgaris* BECHSTEIN, Orn. Taschenb., ii, 1803, 313 (Germany).—DRESSER, Birds Europe, vii, 1875, 545, pl. 531; Ibis, 1891, 369 (Erzerroom).—DANFORD and HARVE-BROWN, Ibis, 1875, 419 (Transylvania).—BUTLER, Cat. Birds Sind, etc., 1879, 58.—SEEBOHM, Ibis, 1879, 152 (Tyre-mané, Siberia); 1890, 409 (Ireland, breeding).—REID, Stray Feath., x, 1881, 65 (Lucknow, India); Ibis, 1885, 253 (Morocco, winter).—BRIDDLPH, Ibis, 1881, 94 (Gilgit, India, winter).—SCULLY, Ibis, 1881, 587 (Gilgit, spring and autumn; crit.).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 161.—SAUNDERS, ed. Yarell's Brit. Birds, iii, 1883, 283; Ibis, 1884, 389 (St. Jean-de-Luz, Pyrenees); Man. Brit. Birds, 1889, 539.—CLARKE (W. E.), Ibis, 1884, 148 (Obedeska Bara, Slavonia).—TRISTRAM, Fauna and Flora Palestine, 1884, 131.—WHITEHEAD, Ibis, 1885, 42 (Corsica, winter).—ST JOHN, Ibis, 1889, 176 (s. Afghanistan).—BUCKLEY and HARVE-BROWN, Vertebr. Faun. Outer Hebrides, 1888, 125; Vertebr. Faun. Orkneys, 1891, 204; Vertebr. Faun. Argyll, 1892, 166.—FELDEN, Ibis, 1889, 495 (Barbados, Dec. 24, 1886).—EVANS, Ibis, 1891, 80 (incubation).—BLAGE, Ibis, 1893, 355 (Shetland Islands, breeding).—WALTON, Ibis, 1903, 33 (Pekin, China).—JESSE, Ibis, 1903, 161 (Lucknow, India).—FROHAWK, Ibis, 1904, 446-451, figs. 5-10 (sexual differences).
- Vanellus cristatus* WOLF and MEYER, Hist. Nat. Ois. de l'Allem., i, 1805, 110, with pl.—MEYER and WOLF, Vög. Deutschl., ii, 1810, 10.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 211.—TEMMINCK, Man. d'Orn., ii, 1820, 550.—ROUX, Orn. Prov., 1825, pl. 278.—WERNER, Atlas, Coureurs, 1827, pl. 17.—BREHM, Vög. Deutschl., 1831, 555.—LESSON, Traité d'Orn., 1831, 542.—MÉNÉTRIÉS, Cat. Rais. Cauc., 1832, 53 (Caspian Sea).—STRICKLAND, Proc. Zool. Soc. Lond., 1836, 101 (Asia Minor).—GOULD, Birds Europe, iv, 1837, pl. 291 and text; Birds Great Brit., iv, 1865, pl. 33 and text.—BONAPARTE, Geog. and Comp. List, 1838, 46.—FRASER, Proc. Zool. Soc. Lond., 1839, 121 (Erzerroom).—CRESPON, Orn. Gard., 1840, 369.—SELYS-LONGCHAMPS, Faune Belge, 1842, 121.—EWER, Proc. Zool. Soc. Lond., 1842, 92 (India).—SCHLEGEL, Rev. Crit., 1844, p. lxxxiii; Vog. Nederl., 1854, pl. 216; Dier. Nederl. Vog., 1861, pl. 21, fig. 10; Mus. Pays-Bas, iv, no. 29 (Cursores), 1865, 56.—MÜHLE, Beitr. Orn. Griechenl., 1844, 94.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 63; Cat. Mam., etc., Nepal pres. Hodgson, 1846, 132; List Brit. Birds, 1863, 137.—HEWITSON, Eggs Brit. Birds, ii, 1846, 261, pl. 70.—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 261.—THOMPSON, Birds Ireland, ii, 1850, 110.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—KJÆRØLLING, Danm. Fugle, 1852, pl. xxxi, fig. 2.—LILLJEBORG, Naumannia, 1852, 107 (n. Russia).—MACGILLIVRAY, Brit. Birds, iv, 1852, 133; Man. Brit. Orn., ii, 1842, 55.—REINHARDT, Journ. für Orn., 1854, 440 (Greenland); Ibis, 1861, 9 (Fiskeneaset, Greenland, Jan. 7, 1820; Julianehaab, Greenland, 1847).—BOLLE, Journ. für Orn., 1855, 176 (Canary Islands); 1857, 337 (Canaries).—ADAMS, Proc. Zool. Soc. Lond., 1858, 505 (India); Ibis, 1864, 30 (Egypt).—TAYLOR, Ibis, 1859, 52 (Egypt); 1867, 68 (Egypt).—SCHRENCK, Reis. Amurland, 1859, 408 (Sungaria).—LINDERMAYER, Vög. Griechenl., 1860, 133.—TRISTRAM, Ibis, 1860, 79 (Algeria, Dec.); Proc. Zool. Soc. Lond., 1864, 450 (Palestine).—POWYS, Ibis, 1860, 339 (Ionian Islands).—HINTZ, Journ. für Orn., 1861, 220 (migrations, etc.).—IRBY, Ibis, 1861, 238 (Oudh, India); 1883, 187 (Santander, Spain); Orn. Straits Gibralt., 1875, 158 (spring and autumn).—SWIN-

HOE, Ibis, 1861, 342 (Pekin, China, Nov.); 1863, 309 (n. China); 1865, 349 (Swatow, China); 1867, 399 (Cheo Bay, Amoy, China); 1876, 334 (Japan): 1882, 120 (Kandahar, India); Proc. Zool. Soc. Lond., 1871, 403 (Canton, China; Formosa).—NEWTON, in Baring-Gould's Iceland, 1863, 411.—RADDE, Reis. Sibir., Vög., 1863, 321 (Bureja Mountains); Orn. Caucas., 1884, 44, 420 (breeding at 2,000–3,500 ft.).—COLLETT, Overs. Christiania Om. Orn. Faun., 1864, 180; Norges Fugle, 1868, 49.—WRIGHT, Ibis, 1864, 142 (Malta).—JERDON, Birds India, iii, 1864, 643.—DROSTE, Journ. für Orn., 1864, 421 (Borkum); 1869, 341 (Färöe Islands).—SALVADORI, Journ. für Orn., 1865, 283 (Sardinia); Faun. Ital., Ucc., 1871, 199.—GIGLIOLI, Ibis, 1865, 69 (Pisa, Italy).—SUNDEVALL, Svensk. Fogl., 1866, pl. 36, fig. 1.—HOLTZ, Journ. für Orn., 1866, 372 (Gottland).—GODMAN, Ibis, 1866, 100 (Azores); Azores, 1870, 32.—BAIRD, Ibis, 1867, 282 (Iceland; Greenland).—DRAKE, Ibis, 1867, 394 (Tangiers, Morocco).—LOCKE, Expl. Sci. Algér., Ois., ii, 1867, 271.—SMITH, Ibis, 1868, 453 (Portugal).—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 207 (Madeira).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 293 (small islands in Norton Sound, at mouth of Golsova River, Alaska).—DROSTE, Journ. für Orn., 1869, 341 (Färöe Islands).—FRITSCH, Vög. Eur., 1870, pl. 35, figs. 3–5.—ELWES and BUCKLEY, Ibis, 1870, 330 (Turkey).—SHELLEY, Ibis, 1871, 145 (Egypt); Birds Egypt, 1872, 231.—GURNEY, Ibis, 1871, 298 (Algeria).—SAUNDERS, Ibis, 1871, 386 (s. Spain).—GRAY (R.), Birds West Scotland, 1871, 263.—HARTING, Handb. Brit. Birds, 1872, 43.—HUME and HENDERSON, Lahore to Yarkand, 1873, 286.—HEUGLIN, Orn. N. Ost-Afrika, ii, 1873, 992, App., p. clxxix (Egypt; n. Arabia; White Nile).—BROOKE, Ibis, 1873, 337 (Sardinia).—SEVERTZOV, Turkest. Jevotn., 1873, 69 (breeding).—TACZANOWSKI, Journ. für Orn., 1873, 101 (Kultuk, e. Siberia); 1874, 336 (east Siberia); Bull. Soc. Zool. France, i, 1876, 249 (e. Siberia); ii, 1877, 155 (Poland); Proc. Zool. Soc. Lond., 1887, 610 (Daltoni, Korea, March); 1888, 468 (Korea, migrant).—HUME, Nests and Eggs Indian Birds, 1873, 573; Stray Feath., i, 1873, 231 (Sind, India).—ADAM, Stray Feath., i, 1873, 394 (Sambhur, India).—SAXBY, Birds Shetlands, 1874, 168.—HANCOCK, Birds Northumberl. and Durham, 1874, 99.—DUENFORD, Ibis, 1874, 397 (North Frisian Islands).—STOLICZKA, Stray Feath., iii, 1875, 220 (Yarkand).—FALLON, Ois. Belg., 1875, 154.—PRJEVALSKY, in Rowley's Orn. Misc., ii, 1877, 433 (s. e. Mongolia, etc.).—DAVID and OUSTALET, Ois. Chine, 1877, 422.—BLAKISTON and PRYER, Ibis, 1878, 219 (Tokyo, Yokohama, and Hakodadi, Japan); Birds Japan, 1882, 108; Trans. Asiat. Soc. Jap., 1882, 108 (Yezo).—BOLAU, Journ. für Orn., 1881, 62 (Suifun, e. Siberia).—REED (J. T. T.), Ornith. and Ool., vii, 1882, 159, 160 (breeding habits).—COUES, Check List, 2d ed., 1882, no. 593.—MURRAY, Vertebr. Faun. Sind, 1884, 228.—SEEBOHM, Ibis, 1884, 267 (centr. China); 1892, 23 (Helgoland); Hist. Brit. Birds, iii, 1885, 57; Geog. Distr. Charadriidæ, 1887, pp. xix, 210, fig.; Birds Japanese Emp., 1890, 312.—BLAKISTON, Amend. List Birds Japan, 1884, 10.—FEILDEN, Zoologist, 1888, 301 (Barbados, Dec. 24, 1886).—DÖRRIES, Journ. für Orn., 1888, 89 (e. Siberia).—SHARPE, Trans. Linn. Soc., (2), v, pt. 3, 1889, 88 (n. Afghanistan); Rep. 2d Yarkand Miss., Aves, 1891, 138.—LILFORD, Ibis, 1889, 339 (Cyprus, winter).—MEADE-WALDO, Ibis, 1889, 509 (Fuerteventura); 1893, 203 (Canary Islands, winter).—CLARKE (W. E.), Zoologist, 1890, 11 (Jan Mayen Land).—FRIVALDSKY, Aves Hung., 1891, 120.—MADARÁSZ, Erläut. Ausst. Ungar. Vogelf., 1891, 102.—STYAN, Ibis, 1891, 330, 504 (lower Yangtse River, winter).—CAMPBELL, Ibis, 1892, 246 (Korea).—DE LA TOUCHE, Ibis, 1892, 496 (Foochow and Swatow, winter).—KOENIG, Journ. für Orn., 1893, 85 (Tunis).—POPHAM, Ibis, 1898, 513 (Krasnoyarsk, Yenesei River, Siberia).

- V[anellus] cristatus* KEYSERLING and BLASTUS, Wirb. Eur., 1840, pp. lxi, 207.—GRAY, Gen Birds, iii, 1847, 541.—COUES, Key N. Am. Birds, 2d ed., 1884, 605.
- [*Vanellus*] *cristatus* GRAY, Hand-list, iii, 1871, 10, no. 9950.—COUES, Key N. Am. Birds, 1872, 243.
- Vanellus gavia* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 29 (Wiltshire, England).—STEPHENS, Shaw's Gen. Zool., xi, pt. 2, 1819, 211.
- [*Vanellus*] *gavia* LICHTENSTEIN, Nomencl. Av. Mus. Berol., 1854, 95 (Nubia).
- Vanellus bicornis* BREHM, Vög. Deutschl., 1831, 557 (middle Germany).
- Charadrius vanellus candidus* NAUMANN (J. F.), Vög. Deutschl., vii, 1834, 276 (color variety).
- Charadrius vanellus pallidus* NAUMANN (J. F.), Vög. Deutschl., vii, 1834, 276 (color variety).
- Charadrius vanellus varius* NAUMANN (J. F.), Vög. Deutschl., vii, 1834, 276 (color variety).
- Vanellus cristatus communis* BREHM (A. E.), Verz. Samml. C. L. Brehm, 1866, 11.

Genus HOPLOXYPTERUS Bonaparte.

Hoploxypterus BONAPARTE, Compt. Rend., xliii, 1856, 418. (Type, by monotypy, *Charadrius cayanus* Latham.)

Medium-sized Charadriidæ (wing 132–150 mm.) with small but distinct metacarpal spur; tail nearly half as long as wing; longest primaries exceeding distal secondaries by less than half the length of wing; plumage pied (black, white, and brownish gray).

Bill shorter than head, rather stout, the exposed culmen about as long as middle toe with claw, its distal third strongly arched; gonys faintly to moderately convex, not prominent basally; broad nasal groove extending about two-thirds the length of maxilla. Wing moderate, the longest primary (outermost) exceeding distal secondaries by a little less than half the length of wing, scarcely, if at all, extending beyond tips of longest tertials; a distinct though small metacarpal spur. Tail nearly half as long as wing, truncated, the rectrices broad and rounded at tips. Tarsus slender, nearly one-third as long as wing, covered laterally with small hexagonal scales, the planta tarsi with indistinct transverse scutella, the acrotarsium practically ocreate; middle toe, with claw, less than half as long as tarsus, the outer and inner toes, successively, decidedly shorter; hallux absent; a very small web between outer and middle toes, the space between inner and middle toes practically cleft to base; bare portion of tibia longer than middle toe with claw.

Coloration.—Above black, white and brownish gray (forehead, hindneck, and scapulars black), beneath white with a black jugular band.

Range.—Tropical South America; Honduras? (Monotypic.)

HOPLOXYPTERUS CAYANUS (Latham).

CAYENNE PLOVER.

Adults (sexes alike).—Forehead, anterior portion of crown (as far back as middle of eye), loreal, superciliary, suborbital, and auricular regions, together with hindneck and a broad band across chest, uniform deep black; margin of pileum, all round (usually broadly), malar region, chin, throat, foreneck, under parts of body posterior to chest, under and upper tail-coverts, axillars and under wing-coverts immaculate white; central portion of pileum (occiput and posterior part of crown) deep brownish gray (hair brown); interscapulars deep brownish gray (hair brown), the outermost with outer webs mostly white, forming a broad stripe along each side of back; scapulars deep black, their concealed bases white; wing-coverts and tertials light brownish gray (between drab-gray and pale mouse gray), the greater coverts, together with secondaries, white, the distal secondaries tipped with black; tail white broadly tipped with black, the middle rectrices brownish gray subterminally; bill black, the base of mandible reddish; eyelids red-orange or scarlet (in life); iris brown; legs and feet red-orange, orange-red, or salmon-red (in life).

Adult male.—Wing, 135–150 (143.3); tail, 55–71 (62.8); culmen, 23–24.5 (23.7); tarsus, 42–45 (44.6); middle toe, 17.5–21.5 (19.2).^a

Adult female.—Wing, 132–149 (141.4); tail, 59–64 (61.2); culmen, 22–24 (23.6); tarsus, 42–45.5 (43.3); middle toe, 19–20 (19.6).^b

South America, from Venezuela (San Felix; Maripa, Rio Cáura; Rio Mato; Ciudad Bolívar and Ecuador (Babahoyo and Guayaquil, Pacific side; Rio Napo and Sarayacu, Atlantic side), through Peru (lower Rio Ucayali; Rio Huallaga; Pebas; Santa Cruz; Santa Ana), British Guiana (Roraima; Ourumi), Cayenne, Bolivia (Rio Surutú, Province Del Sara) and Brazil (numerous localities) to Paraguay (upper Rio Paraná); Falkland Islands; Honduras (Aloor, Rio Ulua).

[*Charadrius*] *cayanus* LATHAM, Index Orn., ii, 1790, 749 (Cayenne; based on *Le Pluvier armé de Cayenne* Buffon, Hist. Nat. Ois., viii, 102; Pl. Enl., 833; *Spurwinged Plover* Latham, Synopsis Birds, v. 215).

Locality.	^a Eight specimens.					^b Seven specimens.				
	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.										
One adult male from Venezuela.....	137.5	55	23	45	18					
Four adult males from Brazil.....	145.2	65.4	23.9	43.5	18.9					
Three adult males from Bolivia.....	142.7	62	23.8	45.8	20.2					
FEMALES.										
Two adult females from Venezuela.....	142	61.7	24	43.7	19.5					
Five adult females from Brazil.....	141.2	61	23.4	44.3	19.6					

- Charadrius cayanus* TEMMINCK, Cat. Syst., 1807, 174.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 135.—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 358 (Lagoa Santa, Brazil).
- Ch[aradrius] cayanus* LICHTENSTEIN, Verz. Doubl., 1823, 20 (Cayenne).
- Hoplopterus cayanus* GRAY, List Birds Brit. Mus., Grallæ, 1844, 65.—HARTLAUB, Index Azara's Apunt., 1847, 24.—REICHENBACH, Grallatores, 1851, pl. 99, fig. 701.—MOORE, Proc. Zool. Soc. Lond., 1859, 63 (Rio Ulua, Honduras).—SCLATER and SALVIN, Ibis, 1859, 228 (Honduras); Proc. Zool. Soc. Lond., 1860, 290 (Babahoyo, w. Ecuador); 1866, 199 (lower Rio Ucayali, e. Peru); 1867, 591 (s. bank of Rio Amazon), 979 (Pebas, e. Peru); 1873, 309 (lower Rio Ucayali, Santa Cruz, and Pebas, e. Peru).—SCLATER, Proc. Zool. Soc. Lond., 1860, 290 (Babahoyo); 1861, 46 (Falkland Islands).—ABBOTT, Ibis, 1861, 155 (Falkland Islands).—PELZELN, Orn. Bras., 1870, 296, 454 (Ytararé; Rio Paraná; Goiaz; Cuyaba; Barra do Rio Negro).—ZELEDÓN, Proc. U. S. Nat. Mus., viii, 1885, 113 (Costa Rica).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 119 (Babahoyo).—BERLEPSCH, Journ. für Orn., 1887, 125 (Paraguay).—SALVIN, Ibis, 1886, 177 (Roraima, Brit. Guiana).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 335.—ALLEN, Bull. Am. Mus. N. H., v, 1893, 149 (Cachoeira and Corumba, Bolivia).—KOENIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. Brazil).—HELLMAYR, Novit. Zool., xiv, 1907, 29 (Urucurituba, Brazil); xv, 1908, 101 (Faz. Esperança, Brazil).
- H[oplopterus] cayanus* GRAY, Gen. Birds, iii, 1847, 542.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 750.
- [Hoplopterus] cayanus* GRAY, Hand-list, iii, 1871, 12, no. 9972.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 142.
- Vanellus cayanus* SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Charadrii), 1865, 12.—SEEBORH, Geog. Distr. Charadriidae, 1887, pp. xix, 229, figs., pl. 10.
- [Hoplozypterus] cayanus* BONAPARTE, Compt. Rend., xliii, 1856, 418.—SHARPE, Hand-list, i, 1899, 149.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, no. 2, 63 (Brit. Guiana; Pará, Brazil; Rio Huallaga, e. Peru).
- Hoplozypterus cayanus* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 135 (Roraima and Ourumi, Brit. Guiana; Sarayacu, e. Ecuador; Pebas, e. Peru; Omega, s. side Rio Amazon; Corumba, Matto Grosso, w. Brazil; Rio Parana), 732 (lower Rio Ucayali; Rio de Janeiro).—IHERING, Revista Mus. Paulista, iii, 1899, 428 (São Paulo, s. Brazil); vi, 1904, 343 (Paraguay), 452 (Rio Jurúá, Amazonas, Brazil).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 129 (Ciudad Bolívar, etc., Venezuela).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 349 (Aloor, Rio Ulua, Honduras; Brit. Guiana; Amazonia; Brazil; Ecuador).—BERLEPSCH and STOLZMANN, Ornith., xiii, 1906, 102 (Santa Ana, Peru; measurements; crit.).—HAGMANN, Zool. Jahrb., 1907, 44 (Mexicana Island).—SNETHLAGE, Journ. für Orn., 1908, 23 (Rio Purús, w. Brazil), 516 (Goyana, Tapajós, Brazil), 538 (Arumatheua, Tocantins, Brazil); Boll. Mus. Goeldi, v, 1908, 68 (Rio Purús).—BERLEPSCH, Novit. Zool., xv, 1908, 304 (Cayenne).—REISER, Denkw. Mat.-Nat. Kaiserl. Ak. Wiss. Wien, 1910, 93 (Joazeiro, etc., n. e. Brazil).—BERTONI, Fauna Parag., 1914, 38 (Alta Paraná).
- Hoplopterus cayannus* ZELEDÓN, Cat. Aves de Costa Rica, 1882, 30.
- [Charadrius] spinosus* (not of Linnæus) GMELIN, Syst. Nat., i, pt. ii, 1789, 691 (Cayenne; based on *Pluvier armé de Cayenne* Daubenton, Pl. Enl., ix, pl. 833; Buffon, Hist. Nat. Ois., viii, 102).
- Charadrius spinosus* MAXIMILIAN, Beitr. Naturg. Bras., iv, 1833, 764 (Rio Belmonte, Brazil).
- Hoplopterus spinosus* GOELDI, Ibis, 1903, 500 (Rio Capim, n. e. Brazil).
- Charadrius stollatus* WAGLER, Syst. Av., 1827, Charadrius, sp. 12 (Paraguay; Brazil; Cayenne).

Genus *SQUATAROLA* Cuvier.

Squatarola CUVIER, Règne Animal, i, 1817, 467. (Type, by tautonymy, *Tringa squatarola* Linnæus.)

Large Charadriidæ (wing 178–199 mm.) with a minute hallux, large, stout bill, and spotted upper parts, the under parts largely uniform black in summer adults.

Bill shorter than head, very stout, its depth at gonydeal angle equal to more than one-fifth the length of exposed culmen, the broad nasal fossa occupying about basal half of maxilla, the distal half of culmen rather strongly convex, the gonys faintly convex, with basal angle prominent. Wing long and very pointed, the longest primary (outermost) exceeding distal secondaries by much more than half the length of wing and extending greatly beyond tips of longest tertials. Tail decidedly more than one-third as long as wing (nearly as long as from bend to tip of distal secondaries), truncate, but middle pair of rectrices slightly longest. Tarsus nearly one-fourth as long as wing, slender, covered all round with small hexagonal scales, these somewhat larger in front; middle toe, without claw, between half and two-thirds as long as tarsus, the lateral toes much shorter, the outer slightly longer than the inner one; hallux present but minute (almost vestigial), with claw stout and straight; a well-developed web between basal phalanges of outer and middle toes, and a distinct though much smaller one between inner and middle toes; bare portion of tibia shorter than middle toe or culmen.

Coloration.—Adults spotted above with white and dusky, in summer with forehead, sides of head, and posterior under parts immaculate white, the remaining under parts uniform black.

Range.—Circumpolar regions, south in winter to Brazil, Peru, South Africa, Australia, Philippines, etc. (Monotypic.)

SQUATAROLA SQUATAROLA (Linnæus).

BLACK-BELLIED PLOVER.

Adults in breeding plumage (sexes alike).—Upper parts pale gray or grayish white, the forehead, superciliary region, and sides of neck nearly pure white and unspotted, the back, scapulars, and wing-coverts with irregular transverse spots of brownish black (this sometimes predominating), the rump often with irregular transverse spots or bars of the same; primaries dusky, their shafts white for middle portion, the proximal quills frequently with a more or less distinct longitudinal mark or narrow stripe of white on outer webs; tail white, narrowly and irregularly barred with blackish; loreal, suborbital, auricular and malar regions, chin, throat, foreneck and under parts as far as lower abdomen, uniform black, with a faint bronzy or coppery gloss; lower abdomen, anal region, and under tail-coverts

immaculate white; axillars sooty blackish; bill black; iris dark brown; legs and feet dull black or grayish black.

Winter plumage.—Sides of head and under parts white, the former more or less streaked with dusky, the foreneck and chest shaded with brownish gray and slightly streaked or mottled with dusky; upper parts without black spotting, the general color being brownish gray or grayish brown, broken by whitish margins and darker grayish submargins to the feathers; otherwise, essentially as in summer.

Young.—Similar to winter adults but upper parts more or less distinctly speckled with light buff-yellowish.

Downy young.—Above olive-yellowish marbled with blackish, the hindneck white; a blackish line along sides of crown, another across lores, from bill to eye, and a less distinct, somewhat curved line of black beneath eye; underparts white.

Adult male.—Wing, 178–199 (189.3); tail, 68–82 (75.4); culmen, 29.5–31.5 (30.4); tarsus, 42–51 (45.3); middle toe, 25.5–29.5 (28.4).^a

Adult female.—Wing, 179–196 (187.5); tail, 69–84 (73.7); culmen, 27.5–31 (29.5); tarsus, 41.5–48.5 (44.7); middle toe, 26–28 (27.4).^a

Breeding in circumpolar regions; in North America from Noatak River, Point Barrow, etc., Alaska to Boothia and Melville peninsulas; in migration practically cosmopolitan, though almost wanting from the whole of Oceania (recorded only as an accidental visitor to Hawaii); in South America migrating as far as southern Brazil (Cujutuba; San Sebastiao; São Paulo, etc.), Paraguay, Peru (Chimbote), and Galapagos Archipelago (Albemarle, Charles, Chatham, Hood, and Jervis islands); in Eastern Hemisphere migrating southward as far as Australia, Tasmania, New Guinea, etc.

[*Tringa squatarola* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 149 (Sweden); ed. 12, i, 1766, 252.—BRÜNNICH, Orn. Bor., 1768, 52.—GMELIN, Syst. Nat., i, pt. ii, 1789, 682.—LATHAM, Index Orn., ii, 1790, 729.—TURTON, Syst. Nat., i, 1806, 411.

^a Twelve specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from France (migrants).....	195	80.5	30.2	45.7	27.2
Eight adult males from Atlantic coast, United States (migrants)	188.4	73.2	30.6	43.9	27.9
Two adult males from Alaska.....	195.5	79.2	30	50.5	29.5
FEMALES.					
One adult female from England (migrant).....	182.5	71	27.5	44.5	27.5
Two adult females from France (migrants).....	193.5	73	29	46.5	27.7
One adult female from Russia (lower Petchora River).....	189	74	31	43.5	28
Two adult females from Greenland (including Franklin Bay).....	188.5	74.5	29	44.5	27.2
Four adult females from Atlantic Coast, United States (migrants)	187.5	72.7	29.7	43.9	27.2
One adult female from Arctic coast east of Fort Anderson	185	84	31	44	28
One adult female from Grenada, Lesser Antilles (migrant).....	179	69	30	41.5	26

- Tringa squatarola* SCOPOLI, Ann. I, 1769, 101; Bemerk. ed. Günther, 1770, 117.—BODDAERT, Tabl. Pl. Enl., 1783, 52 (Pl. Enl., pl. 854).—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxv, 1819, 216.—YARRELL, Hist. Brit. Birds, ii, 1843, 413.—CHAPMAN, Trav. S. Africa, ii, 1868, 416.
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- Squatarola australis* OLPHE-GALLIARD, Contr. Faun. Orn. Eur. Occ., fasc. xiii, 1890, 6.
- [*Squatarola*] *wilsoni* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 95 (*nomen nudum*).
- Squatarola longirostris* BREHM (A. E.), Journ. für Orn., 1854, 79 (*nomen nudum*; Menzaleh Lake, n. e. Africa).
- Squatarola megarhynchos* BREHM, Vogelf., 1855, 284 (n. e. and s. e. Europe; Egypt).
- [*Squatarola*] *rhynchomega* BONAPARTE, Compt. Rend., xliii, 1856, 416 (Abyssinia).
- [*Squatarola*] *subtridactyla* GRAY, Hand-list, iii, 1871, 13, no. 9981 (*ex* Hasselquist).
- Charadrius megalorhynchus* REICHENOW, Journ. für Orn., 1877, 11 (Loango).
- Squatarola squatarola cynosuæ* THAYER and BANGS, Proc. New Engl. Zool. Club; v, April 9, 1914, 23, in text (Baillie Island, Arctic America; coll. Mus. Comp. Zool.).—BROOKS, Bull. Mus. Comp. Zool., lix, 1915, 377 (Arctic coast Alaska, breeding).

Genus PLUVIALIS Brisson.

Pluvialis BRISSON, Orn., v. 1760, 42. (Type, by tautonymy, *Charadrius pluvialis* Linnæus=*C. apricarius* Linnæus.)

Rather large Charadriidæ (wing 147–189 mm.) resembling *Squatarola* but without trace of hallux, with bill much smaller and more slender, and upper parts spotted with yellow.

Bill much shorter than head, slender, its depth at gonydeal angle equal to about one-fifth the length of culmen; culmen about as long as middle toe without claw or decidedly shorter, the distal portion decidedly convex; broad nasal fossa extending for more than basal half of maxilla; gonys nearly straight, with distinct though not prominent basal angle. Wing long and very pointed, the longest primary (outermost) exceeding distal secondaries by much more than half the length of folded wing and extending much beyond tips of longest tertials. Tail shorter than distance from bend of wing to tips of distal secondaries, truncated. Tarsus nearly one-fourth as long as wing, slender, covered all round with small hexagonal scales, these larger in front; middle toe, without claw, decidedly more than half as long as tarsus, the lateral toes much shorter, the inner one decidedly shorter than the outer; hallux wanting; a small

but distinct web between basal phalanges of outer and middle toes and a much smaller one between inner and middle toes.

Coloration.—Upper parts speckled or dotted with yellowish on a dusky ground; summer adults with sides of head and most of under parts uniform black, the forehead, superciliary region, sides of neck, and sides of chest white.

Range.—Northern portion of northern hemisphere, south in winter to Chile, Argentina, Australia, etc. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF PLUVIALIS.

- a. Axillars and under wing-coverts white. (Europe and western Asia, south in winter to northern Africa, northern India, etc.; casual in Greenland.)
Pluvialis apricarius (p. 80).
- aa. Axillars and under wing-coverts brownish gray. (*Pluvialis dominicus*.)
- b. Wings and tail averaging decidedly longer, bill, tarsi and toes slightly shorter; upper parts with less conspicuous yellow spotting, especially in winter plumage and young; adult male averaging: Wing, 176.4; tail, 67.9; culmen, 22.2; tarsus, 41.9; middle toe, 22.9; adult female, wing 180.8, tail 66, culmen 22.5, tarsus 43, middle toe, 23.9. (Arctic coast of North America, south in winter to southern South America).....*Pluvialis dominicus dominicus* (p. 83).
- bb. Wings and tail averaging decidedly shorter, bill, tarsi and toes averaging slightly longer; upper parts more conspicuously spotted with yellow, especially in winter plumage and young; adult male averaging: Wing, 165.9; tail, 63.6; culmen, 23.4; tarsus, 42.9; middle toe, 23.1; adult female, wing 167.2, tail 62.5, culmen 23.2, tarsus, 43.3, middle toe 24.1. (Northeastern Siberia and Alaskan coast of Bering Sea, south in winter to Hawaiian Islands and other islands throughout Pacific Ocean to New Zealand, Australia, etc.).....
Pluvialis dominicus fulvus (p. 88).

PLUVIALIS APRICARIUS (Linnaeus).

GOLDEN PLOVER.

Adults in breeding plumage (sexes alike).—Upper parts dusky, speckled with bright ochre-yellow, this on scapulars and larger wing-coverts assuming the form of bars extending notch-like from margins of outer webs toward shafts; anterior lesser coverts deep grayish brown, with yellowish markings less distinct; alula, primary coverts, and primaries dusky, narrowly margined at tips with whitish; tail grayish brown, barred with pale yellow and pale grayish brown, the lateral rectrices with the pale bars becoming whitish externally; sides of head (including whole of loreal and auricular regions), chin, throat, foreneck, chest, breast and abdomen uniform dull black, broadly margined laterally by white from (and including) forehead and superciliary region down sides of neck to sides of chest; under tail-coverts white, spotted or otherwise marked with black toward anal region; axillars immaculate white; under wing-coverts white, spotted with grayish brown toward edge of wing; bill black; iris dark brown; legs and feet grayish black.

Winter plumage.—Without any black on sides of head or under parts, which are white on throat and abdomen, elsewhere pale grayish brown, streaked on chest, etc., with darker; upper parts less conspicuously speckled with yellow.

Young.—Similar to winter adults but upper parts more conspicuously speckled with yellow, the chest and adjacent parts strongly tinged or suffused with buffy yellow.

Downy young.—Upper parts dull buffy yellow (naples yellow or mustard yellow), irregularly mottled or marbled with black; forehead and superciliary region dull buffy yellow to pale yellowish buff, the former with an irregular median streak or series of spots, the latter with irregular markings of black or brownish black, the lores also with a central irregular streak or spot of the same; suborbital and malar regions and under parts dull white, the malar region with a rictal or post-rictal spot or streak, and on subauricular portion irregular markings of black.

Adult male.—Wing, 171–189 (180.5); tail, 69–83 (74.4); culmen, 21–24.5 (22.5); tarsus, 37–43 (40.5); middle toe, 24–26.5 (25.1).^a

Adult female.—Wing, 180–181 (180.2); tail, 70.5–72.5 (71.7); culmen, 22–23 (22.4); tarsus, 38–41 (39.5); middle toe, 23.5–26 (24.7).^b

Europe and Asia; breeding from British Islands (including Shetlands) and central Europe to Iceland and Arctic coast of Europe and Asia as far eastward as valley of Yenesei River, Siberia; migrating southward to northern Africa (occasionally to southern Africa) and India; occasional or casual in southern Greenland (several records).

[*Charadrius apricarius* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 150, part (Oeland Island, Sweden; ex Fauna Suecica, 156; etc.); ed. 12, i, 1766, 254.—BRENNICH, Orn. Bor., 1764, 56.—GMELIN, Syst. Nat., i, pt. ii, 1789, 687.—LATHAM, Index Orn., ii, 1790, 742, part.—TURTON, Syst. Nat., i, 1806, 415.—GRAY, Handlist, iii, 1871, 13, no. 9982.

Charadrius apricarius FABRICIUS, Faun. Groenl., 1780, 114.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 146.—BREHM, Vög. Deutschl., 1831, 541, pl. 27, fig. 3.—HOLM, Naturhist. Tidsskr., 2d ser., ii, 1848, 485 (Färö Islands).—KJÆRBOELLING, Danm. Fugle, 1852, pl. 30, fig. 6.—SUNDEVALL, Svensk. Fogl., 1856–72, pl. 36, figs. 2, 3.—HEUGLIN, Ibis, 1872, 62 (Novaya Zemlya; Yugorsky Strait and Waigats, n. Russia), 118 (Arctic Europe); Orn. N. Ost-Afrika, ii, pt. i, 1873, 1014 (Nile delta, in winter).—PALMÉN, Finlands Foglar, 1873, 91.—REINHARDT, Vid. Medd. Förh. Kjobenhavn, 1874, nos. 12–16, 3 (Greenland); 1881, 184 (Greenland).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 138.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 271; 3rd ed., 1910, p. 127.—CHAMBERLAIN (M.), Auk, vi, 1889, 217 (s. Greenland, several records).—FRIVALDSKY, Av. Hung., 1891, 121.

C[haradrius] apricarius RIDGWAY, Man. N. A. Birds, 1887, 173.

^a Eleven specimens.

^b Four specimens.

- Pluvialis apricarius* LESSON, *Traité d'Orn.*, 1831, 543.—BONAPARTE, *Cat. Met. Ucc. Eur.*, 1842, 57; *Compt. Rend.*, xliii, 1856, 417.—SCHLEGEL, *Mus. Pays-Bas*, iv, no. 29 (*Cursores*), 1865, 49.—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 123.—LOCHE, *Expl. Sci. Algér.*, Ois., ii, 1867, 262.—FRITSCH, *Vög. Eur.*, 1870, pl. 37, figs. 1, 2.
- Charadrius apicarius* ELLIOT, *N. Am. Shore Birds*, 1895, 168, pl. 54.
- [*Charadrius*] *pluvialis* LINNÆUS, *Syst. Nat.*, ed. 10, i, 1758, 151 (Sweden); ed. 12, i, 1766, 254.—BRÜNNICH, *Orn. Bor.*, 1764, 57.—GMELIN, *Syst. Nat.*, i, pt. ii, 1789, 688.—LATHAM, *Index Orn.*, ii, 1790, 740, part.—TURTON, *Syst. Nat.*, i, 1806, 415.—SHARPE, *Hand-list*, i, 1899, 152.—FORBES and ROBINSON, *Bull. Liverp. Mus.*, ii, no. 2, 1899, 65.
- Charadrius pluvialis* VIEILLOT, *Nouv. Dict. d'Hist. Nat.*, xxxii, 1818, 131, pl. 34, fig. 3.—TEMMINCK, *Man. d'Orn.*, ii, 1820, 535.—ROUX, *Orn. Provence*, 1825, pls. 271, 272.—WERNER, *Atlas, Cursores*, 1827, pl. 10.—BREHM, *Vög. Deutschl.*, 1831, 543.—GOULD, *Birds Europe*, iv, 1837, pl. 294 and text; *Birds Great Brit.*, iv, 1864, pls. 38, 39, and text.—BONAPARTE, *Geog. and Comp. List*, 1838, 45.—SELYS-LONGCHAMPS, *Faune Belge*, 1842, 121.—YARRELL, *Brit. Birds*, ii, 1843, 385; 2d ed., ii, 1845, 447; 3d ed., 1856, 476.—SCHLEGEL, *Rev. Crit.*, 1844, p. lxxxi; *Dier. Nederl. Vog.*, 1861, pl. 21, figs. 2, 3.—GRAY, *List Birds Brit. Mus.*, *Grallæ*, 1844, 66; *List Brit. Birds*, 1863, 139.—HEWITSON, *Eggs Brit. Birds*, ii, 1846, 249, pl. 68, fig. 1.—THOMPSON, *Birds Ireland*, ii, 1850, 83.—HARCOURT, *Proc. Zool. Soc. Lond.*, 1851, 146 (*Canary Islands*).—REINHARDT, *Journ. für Orn.*, 1854, 440 (*Greenland*).—BOLLE, *Journ. für Orn.*, 1855, 176 (*Canary Islands, winter*).—HARTLAUB, *Orn. West-Afrika*, 1857, 215 (*Gaboon*).—SALVIN, *Ibis*, 1859, 355 (*Tunis, Algeria, Feb., March*).—LINDERMAYER, *Vög. Griechenl.*, 1860, 134.—WALTER, *Ibis*, 1860, 166 (*Godhavn, Greenland*).—NEWTON, in *Baring-Gould's Iceland*, 1863, 411; *Man. Nat. Hist. Greenland*, 1875, 101.—TRISTRAM, *Proc. Zool. Soc. Lond.*, 1864, 450 (*Palestine, winter*); *Fauna and Flora Palestine*, 1884, 129 (*Palestine, winter*);—WRIGHT, *Ibis*, 1864, 140 (*Malta, spring and autumn*).—SALVADORI, *Journ. für Orn.*, 1865, 284 (*Sardinia*); *Faun. Ital.*, Ucc., 1871, 203; *Elenco Ucc. Ital.*, 1886, 210.—GIGLIOLI, *Ibis*, 1865, 69 (*Pisa, Italy, winter*); *Avif. Ital.*, 1st Resoc., 1889, 565; 2d Resoc., 1890, 647; 3d Resoc., 1891, 509.—LILFORD, *Ibis*, 1866, 178 (*Spain*); 1889, 339 (*Cyprus*).—BAIRD, *Ibis*, 1867, 282 (*Iceland*).—DRAKE, *Ibis*, 1867, 429 (*Tangiers, Morocco*).—LAYARD, *Birds South Africa*, 1867, 296 (*Lamu, e. Africa*).—SMITH, *Ibis*, 1868, 453 (*Portugal*).—SAUNDERS, *Ibis*, 1869, 173 (*Spain*); 1871, 386 (*s. Spain*); ed. *Yarrell's Brit. Birds*, iii, 1883, 271; *Man. Brit. Birds*, 1889, 531.—FINSCH and HARTLAUB, *Vög. Ostafrika*, 1870, 662, footnote.—GRAY (R.), *Birds West Scotland*, 1871, 252.—DRESSER, *Birds Europe*, vii, 1871, 435, pl. 515, fig. 1, pl. 518, fig. 1.—TAYLOR, *Ibis*, 1872, 232 (*Constantinople*).—SHELLEY, *Birds Egypt*, 1872, 235 (*winter*).—FEILDEN, *Zoologist*, 1872, 3245 (*Færoe Islands, March-Aug.*).—HARTING, *Handb. Brit. Birds*, 1872, 42.—SEVERTZOV, *Turkest. Jevotn.*, 1873, 69 (*Turkestan, migrant*).—SAXBY, *Birds Shetlands*, 1874, 157 (*breeding*).—IRBY, *Orn. Straits Gibralt.*, 1875, 160; *Key List Brit. Birds*, 2d ed., 1892, 47.—FALLON, *Ois. Belg.*, 1875, 150.—BLANFORD, *East. Persia*, ii, 1876, 278 (*Gwadar; Reaht, Baluchistan*).—SEEBOHM and HARVIE-BROWN, *Ibis*, 1876, 221 (*lower Petchora River, Russia; habits; crit.*).—SEEBOHM, *Ibis*, 1879, 152 (*banks of Kooray-i-ka and Varéhinsky, Siberia, June, July; habits*); 1882, 222 (*Astrakhan*), 380 (*Archangel, Russia*); 1883, 28 (*Caucasus*); 1887, 152 (*Helgoland*); *Hist. Brit. Birds*, iii, 1885, 35; *Geog. Distr. Charadrii*, 1887, pp. xvi, 97, figs.—COLLETT, *Norges Fuglefauna*, 1881, 106.—COUES, *Check List*, 2d ed., 1882, no. 583.—BRITISH ORNITHOLOGISTS' UNION, *List Brit. Birds*, 1883, 157.—RADDE, *Orn. Caucas.*,

- 1884, 43, 412.—MURRAY, *Vertebr. Fauna Sind*, 1884, 225.—SHARPE, ed. *Layard's Birds South Africa*, 1884, 657; *Cat. Birds Brit. Mus.*, xxiv, 1896, 191, 737.—WHITEHEAD, *Ibis*, 1885, 41 (Corsica).—DIXON, *Ibis*, 1885, 85 (St. Kilda).—REID, *Ibis*, 1885, 252 (Morocco).—YERBURY, *Ibis*, 1886, 20 (Adén, occasional).—BUCKLEY and HARVIE-BROWN, *Vertebr. Faun. Outer Hebrides*, 1888, 141 (resident); *Vertebr. Fauna Orkney Is.*, 1891, 201 (resident); *Vertebr. Fauna Argyll and Inner Hebrides*, 1892, 163.—BARNES, *Ibis*, 1893, 169, 181 (Adén).—BLAGG, *Ibis*, 1893, 355 (Shetland Islands; breeding habits).—PEARSON and BIDWELL, *Ibis*, 1894, 233 (Norway, breeding).—POYNTING, *Eggs Brit. Birds*, pt. i, 1895, 39, pl. 10.—PEARSON, *Ibis*, 1896, 211 (Russian Lapland); 1898, 198 (Dolga Bay, Waigats, and Cape Greben, n. e. Russia).—POPHAM, *Ibis*, 1897, 102 (Yenesei River, Siberia; descr. eggs); 1898, 572 (Yenesei River).—GRANT, *Novit. Zool.*, vii, 1900, 268 (s. Arabia).—JESSE, *Ibis*, 1903, 162 (Lucknow, India).
- CH[aradrius] pluvialis* KEYSERLING and BLASIUS, *Wurb. Eur.*, 1840, pp. lxx, 208.
- CH[aradrius] pluvialis* HÖLBOLL, *Naturhist. Tidsskr.*, iv, 1843, 406 (Greenland).—COUES, *Key N. Am. Birds*, 2d ed., 1884, 600.
- Charadrius aureus* MÜLLER, *Syst. Nat.*, Suppl., 1776, 118 (ex Brisson, *Orn.*, v, 1760, 43).
- Pluvialis aurea* SCHAEFFER, *Mus. Orn.*, 1789, 48.—MACGILLIVRAY, *Man. Brit. Orn.*, ii, 1842, 49; *Hist. Brit. Birds*, iv, 1852, 94.
- Charadrius auratus* SUCKOW, *Naturng. der Thiere*, ii, 1801, 1592 (based on *C. apricarius* Linnæus, etc.).—MEYER and WOLF, *Taschenb.*, ii, 1810, 318.—BREHM, *Vög. Deutschl.*, 1831, 542.—NAUMANN, *Vög. Deutschl.*, vii, 1834, 138, pl. 173.—SCHLEGEL, *Vog. Nederl.*, 1854, pl. 211.—CLARKE (W. E.), *Zoologist*, 1890 (Jan Mayen Land).
- Charadrius altifrons* BREHM, *Vög. Deutschl.*, 1831, 542 (Faroe Islands; Greenland; Germany).

PLUVIALIS DOMINICUS DOMINICUS (Müller).

AMERICAN GOLDEN PLOVER.

Similar to *P. apricarius*, but smaller (except bill and feet) and with axillars and under wing-coverts brownish gray or grayish brown instead of white.

Adults in breeding plumage (sexes alike).—Upper parts brownish black, thickly marked with small roundish and irregular spots of golden yellow, interspersed with fewer similar markings of grayish white, the upper tail-coverts barred rather than spotted with yellow; tail dusky, irregularly barred with grayish-white or pale gray and yellowish; alula, primary coverts and primaries dusky or blackish, the last with shafts white in middle portion, the white sometimes extending to adjacent portion of the webs, especially on proximal quills; sides of head, including entire loreal and auricular regions, chin, throat, chest, breast, and abdomen uniform black, with a faint bronzy gloss in certain lights; forehead, superciliary region, sides of neck and chest, under tail-coverts, and thighs white; axillars and under wing-coverts brownish gray; bill black; iris dark brown; legs and feet grayish black.

Winter plumage.—Without black on sides of head or under parts, which are pale brownish gray, passing into white on under tail-coverts, the foreneck and chest more or less spotted or mottled with darker; speckling on upper parts mostly grayish white, the yellow chiefly confined to rump and upper tail-coverts; no pure white on forehead, superciliary region, or sides of neck; otherwise like summer plumage.

Young.—Similar to winter adults, but upper parts more generally and conspicuously spotted with yellow.

Downy young.—Upper parts buffy yellow (colonial buff, more or less deep), irregularly mottled with black; a band across nape, sides of head, and under parts dull white, the breast tinged with pale brownish gray; forehead buffy white with a median streak of black; a black loreal streak and above this a spot of black; a narrow streak from rictus to beneath auricular region, becoming broader posteriorly.

Adult male.—Wing, 159–183.5 (176.4); tail, 60–75 (67.9); culmen, 20.5–24 (22.2); tarsus, 38.5–45 (41.9); middle toe, 21–24.5 (22.9).^a

Adult female.—Wing, 176–183 (180.8); tail, 64–70 (66); culmen, 22–23.5 (22.5); tarsus, 41–44.5 (43); middle toe, 23–25 (23.9).^b

Breeding along or near Arctic coast of North America, from Point Barrow, northern Alaska, "to mouth of Mackenzie River, and from Melville Island, Wellington Channel, and Melville Peninsula south to northwestern [shores of] Hudson Bay;"^c winters in southern South America, on open plains of Brazil, Argentina, Paraguay (Gran Chaco; upper Rio Paraná), Uruguay (Montevideo; Bahía Blanca; Sierra de la Ventura), and Bolivia (Aguairé; San Francisco); migrates southward from Nova Scotia, New Brunswick, etc., over Atlantic Ocean via West Indies and Bermuda (a few only going south by way of the interior), returning northward through the Mississippi Valley via the continental land area.

a Eleven specimens.		b Six specimens.			
Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Hudson Bay (Cape Eskimo).....	177.	69	21.5	38.5	22
Two adult males from Illinois (migrants).....	179.5	68.7	22.7	41.2	23
One adult male from Mackenzie (Fort Simpson).....	180	72	23	45	23
Seven adult males from northern Alaska (Point Barrow).....	174.9	67	22.1	42.1	22.9
Twenty-three adult males of <i>P. d. fulvus</i>	165.9	63.6	23.4	42.9	23.1
Eleven adult males of <i>P. apricarius</i>	180.5	74.4	22.5	40.5	25.1
FEMALES.					
Four adult females from Mackenzie (Fort Simpson).....	179	66.4	22.6	42.4	23.7
Two adult females from northern Alaska (Point Barrow).....	184.5	65.2	22.2	44.2	24.2
Eleven adult females of <i>P. d. fulvus</i>	167.2	62.5	23.2	43.3	24.1
Four adult females of <i>P. apricarius</i>	180.2	71.7	22.4	39.5	24.7

^c American Ornithologists' Union Check List, 3d ed., 1910, 127.

- [*Charadrius*] *apricarius* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 150, part (Canada; cites Edwards, 140); ed. 12, i, 1766, 254, part.—GMELIN, Syst. Nat., i, pt. ii, 1789, 687, part.—LATHAM, Index Orn., ii, 1790, 742, part (cites *Pluvialis aurea freti hudsonis* Brisson).
- Charadrius apricarius* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 103 (crit.); Obs. Nomencl. Wilson's Am. Orn., 1826, [186].
- Charadrius dominicus* MÜLLER, Syst. Nat., Suppl., 1776, 116 (Santo Domingo; based on *Pluvier doré de S. Domingue* Brisson, Orn., v, 1760, 48, pl. 6, fig. 1).—CASSIN, Proc. Ac. Nat. Sci. Phila., 1864, 241 (Jamaica).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 9 (Cat. N. Am. Birds, no. 515); Nom. N. Am. Birds, 1881, no. 515.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 164 (Icy Cape, Arctic coast Alaska, Aug. 25).—COUES, Check List, 2nd ed., 1882, no. 581.—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Fox Island, Lewis Sound).—NELSON, Cruise 'Corwin' in 1881 (1883), 84, part (Arctic coast, Alaska); Rep. N. H. Coll. Alaska, 1887, 123, part (Fort Reliance, etc.; habits).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 139.—MURDOCH, Rep. Point Barrow Exped., 1885, 109.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 246 (Labrador).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 272.—SETON, Auk, iii, 1886, 152 (Manitoba, spring and autumn).—WELLS, Proc. U. S. Nat. Mus., ix, 1886, 627 (Grenada); List Birds Grenada, 1886, 7.—BECKHAM, Proc. U. S. Nat. Mus., x, 1887, 642, 654 (Texas).—BERLEPSCH, Journ. für Orn., 1887, 125 (Paraguay).—CORY, Auk, iv, 1887, 227 (West Indian localities and references); Birds West Ind., 1889, 227; Cat. West Ind. Birds, 1892, 94.—LLOYD, Auk, iv, 1887, 186 (w. Texas).—SCOTT, Auk, vi, 1889, 159 (Punta Rassa, Florida); ix, 1892, 14 (Jamaica), 212 (Florida).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 109 (Lower Rio Beni, Bolivia, Aug.).—FEILDEN, Ibis, 1889, 490 (Barbados; habits).—SCLATER and HUDSON, Argentine Orn., ii, 1889, 170.—CLARKE (W. E.), Auk, vii, 1890, 321 (Fort Churchill, Keewatin).—CHERRIE, Auk, vii, 1890, 332 (Costa Rica); ix, 1892, 329 (Costa Rica, Oct., Nov., Dec.).—WARREN, Birds Penn., 2d ed., 1890, 98.—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 506 (Manitoba).—MACKAY, Auk, viii, 1891, 17 (Massachusetts); x, 1893, 79 (Massachusetts migration in 1894); xiii, 1896, 80 (migration in 1895); xiv, 1897, 212 (migration in 1896).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 429 (Arctic America).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 399 (Chorillos, Peru); Ornith., xiii, 1906, 125 (Huaynapata, Peru, Nov. 13), 131 (Puno, Peru, March 27).—JAMES, New List Chilean Birds, 1892, 11.—ATTWATER, Auk, ix, 1892, 232 (San Antonio, Texas).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1892, 96 (Trinidad).—ELLIOT, N. Am. Shore Birds, 1895, 173, pl. 55.—POYNTING, Eggs Brit. Birds, pt. i, 1895, 49, pl. 12.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 195, 738, part.—KOENIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. Brazil).—SALVADORI, Boll. Mus. Zool., etc., Torino, xii, 1897, 35 (Aguairenda and San Francisco, s. Bolivia).—HOLMBERG, Segundo censo Argentina, 1898, 564.—IHERING, Revista Mus. Paulista, iii, 1899, 429 (São Paulo).—KERR, Ibis, 1901, 235 (Gran Chaco, Paraguay).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 352 (Jalapa, Vera Cruz; Huertas de San Javier, Puebla; Nativitas, Tlaxcala; Dueñas, Guatemala; San Jose, Costa Rica).—LÖNNBERG, Ibis, 1903, 446 (Moreno, Argentina, Dec. 1).—RILEY, Smithsonian Misc. Coll., vol. 47, 1904, 280 (Barbuda, Sept. 2).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 416 (Costa Rica).—DABBENE, Orn. Argentina, 1910, 216.—GRANT (C. H. B.), Ibis, 1911, 464 (Cape San Antonio, etc., Argentina, Dec., Jan.).—BERTONI, Faun. Parag., 1914, 38 (upper Rio Parana).

- [*Charadrius*] *dominicus* NEWTON (A. and E.), Handb. Jamaica, 1881, 115.—COUES, Key N. Nm. Birds, 2d ed., 1884, 599.—RIDGWAY, Man. N. Am. Birds, 1887, 174.—CARRIKER, Ann. Carnegie Mus., vi, 1910, 416, footnote (Lepanto, Costa Rica, March 16).
- [*Charadrius*] *dominicus* CORY. List Birds West Ind., 1885, and revised ed., 1886, 25.—SHARPE, Hand-list, i, 1899, 152, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 65, part.
- [*Charadrius dominicus*] Var. *dominicus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 138.
- Charadrius dominicus dominicus* HANTZSCH, Journ. für Orn., July, 1908, 362 (n. e. Labrador).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Barracas al Sud, Argentina, Oct., Nov.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 127.—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 40 (Porto Rico, rare migrant).
- Pluvialis dominicus dominicus* BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 377 (Collinson Point and Demarcation Point, Alaska, to Herschel Island, breeding; habits, etc.).
- [*Charadrius pluvialis*] β LATHAM, Index Orn., ii, 1790, 740 (Santo Domingo; ex *Pluvialis dominicensis aurea* Brisson, Orn., v, 1760, 48, pl. 6, fig. 1).
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- Squatarola helvetica* (not *Tringa helvetica* Linnæus) LÉOTAUD, Ois. Trinidad, 1866, 389.

PLUVIALIS DOMINICUS FULVUS (Gmelin).

PACIFIC GOLDEN PLOVER.

Similar to *P. d. dominicus*, but the golden yellow spotting of upper parts much more conspicuous, especially in young, in which the chest is strongly tinged with yellow; wing and tail averaging decidedly shorter, tarsus and toes averaging slightly longer.

Adult male.—Wing, 147–181.5 (165.9); tail, 58–69 (63.6); culmen, 21–25 (23.4); tarsus, 39–45.5 (42.9); middle toe, 22–26.5 (23.1).^a

Adult female.—Wing, 156–187.5 (167.2); tail, 59–67 (62.5); culmen, 21.5–24.5 (23.2); tarsus, 39.5–46 (43.3); middle toe, 23.5–27 (24.1).^b

Breeding in northeastern Siberia from Liakoff Island to Bering Strait and along Bering Sea coast of Alaska; migrating to Hawaiian Islands and other islands throughout Pacific Ocean and along Pacific coast of Asia to Japan, Philippine Islands, Malay Peninsula and Archipelago, Borneo, Java, etc., as far as Australia, Tasmania, and New Zealand; casual or occasional westward to Arabia (Muscat), Malta, Spain, Helgoland, and British Islands.

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^a Twenty-three specimens.

^b Eleven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from western Alaska	169.6	65.4	22.9	43	23.6
Two adult males from Bering Island, Kamchatka.....	155	64	22.7	42	24
One adult male from China (Shanghai).....	164	58	25	44.5	25
Two adult males from Japan.....	165	65.2	23.7	42.7	24.2
One adult male from Philippines.....	160	59	22	41	23
Four adult males from Hawaii.....	166.7	63.2	24.7	42.6	24.5
One adult male from Laysan.....	163.5	61	25	45.5	24
One adult male from Guam.....	162	60	22.5	44.5	23.5
One adult male from New South Wales.....	158	59	23	41.5	24.5
FEMALES.					
Three adult females from western Alaska.....	172.2	63.8	23.3	44	24
One adult female from Japan.....	175.5	63.5	24.5	46	27
One adult female from China Sea (Bangoran Island).....	159	61	23.5	42	23.5
One adult female from Celebes.....	167.5	62	23	43	23.5
Three adult females from Philippines.....	160	60	23.7	42.3	23.8
Two adult females from Hawaii.....	169.2	64.7	21.7	43	24

781 (Ponape, Carolines), 784 (Niuaufou, Friendly Islands); 1879, 14 (Duke of York Island); 1880, 576 (Ruk, centr. Carolines); Ibis, 1880, 79 (Honolulu); 1881, 109 (Kuschai, Carolines), 115 (Ponape).—SWINHOE, Proc. Zool. Soc. Lond., 1871, 403 (China; Formosa; Hainan); Ibis, 1873, 427 (Shanghai, China); 1874, 162 (Hakodadi, Japan).—DRESSER, Birds Europe, vii, 1871, 443, pl. 516, pl. 517, figs. 2, 3; Ibis, 1875, 513 (Great Britain).—WALDEN, Trans. Zool. Soc. Lond., viii, 1872, 88 (Celebes); ix, 1875, 226 (Luzon, Philippines); Ibis, 1873, 316 (South Andaman Island).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 470 (Ceylon).—WALDEN and LAYARD, Ibis, 1872, 105 (Negros, Philippines).—TACZANOWSKI, Journ. für Orn., 1873, 101 (e. Siberia); 1874, 336 (e. Siberia); Bull. Soc. Zool. France, i, 1876, 247; ii, 1877, 155 (Poland, Nov.); Proc. Zool. Soc. Lond., 1888, 456 (Seoul, Korea).—BULLER, Birds New Zealand, 1873, 212; 2d ed., ii, 1888, 6; Ibis, 1874, 118 (New Zealand; crit.).—HUME, Nests and Eggs Indian Birds 1873, 570; Stray Feath., i, 1873, 228 (Larkhana, Sind), 462 (Acheen, Sumatra); ii, 1874, 287 (Andaman Islands); iii, 1875, 179 (Pegu); iv, 1876, 462 (Laccadive Islands).—COUES, in Elliott's Condit. Aff. in Alaska, 1874, 179 (Pribilof Islands); Birds Northwest, 1874, 450, footnote (St. Paul Island, Pribilofs; synonymy; crit.).—HUTTON, Ibis, 1874, 39 (New Zealand).—SALVADORI, Ucc. Borneo, 1874, 313; Ann. Mus. Genova, vii, 1875, 793; viii, 1876, 384 (Bouru); x, 1877, 163; xiv, 1879, 665; xviii, 1882, 324 (geog. range); (2), iv, 1887, 613 (Bhamo); (2), x, 1891, 827 (Killerton Island); Proc. Zool. Soc. Lond., 1878, 82 (Amboina); Voy. 'Challenger,' ii, Birds, 1881, 63 (Amboina); Orn. Papuasias, iii, 1882, 294; Agg. Orn. Papuasias, iii, 1891, 200.—BLYTH and WALDEN, Birds Burma, 1875, 153.—SHARPE, Voy. 'Erebus' and 'Terror,' Birds, 1875, App., 29 (New Zealand); Ibis, 1876, 51 (Sibu, Borneo); 1879, 270 (Lawas River; n. w. Borneo); 1881, 51 (Borneo, Oct.); 1886, 167 (Muscat, Arabia); 1890, 142, 284 (Benkoka; Labaun); Journ. Linn. Soc. Zool., xiii, 1877, 504 (Port Moresby); 1879, 350 (Labuan); Sci. Res. 2nd Yarkand Miss., Aves, 1891, 156.—IRBY, Orn. Straits Gibralt., 1875, 161; Ibis, 1879, 345 (Malaga, Spain); Key List Brit. Birds, 2d ed., 1892, 47.—LEGGE, Ibis, 1875, 400 (Ceylon); Birds Ceylon, 1880, 934; Proc. Austral. Assoc. Adv. Sci., 1892, 32 (Tasmania, Oct.—Mar.).—LAYARD, Proc. Zool. Soc. Lond., 1875, 440 (Fiji Islands); 1876, 497 (Samoa), 503 (Friendly Islands); Ibis, 1876, 393 (Fiji Islands).—TRISTRAM, Ibis, 1876, 264 (New Hebrides); 1881, 251 (Marquesas Islands); 1883, 47 (Fanning Islands); 1889, 558 (Rossel Island); Proc. Zool. Soc. Lond., 1886, 79 (Sidney Island, Phoenix group).—CABANIS and REICHENOW, Journ. für Orn., 1876, 327 (Samoa).—STREETS, Am. Nat., xi, 1877, 71, in text (Christmas Island).—SCLATER, Proc. Zool. Soc. Lond., 1877, 113 (Duke of York Island).—TWEEDDALE, Ibis, 1877, 322 ((Sumatra), 550 (Mindanao, Philippines), 701 (Luzon, Philippines); 1878, 344 (South Leyte Island, Philippines); Proc. Zool. Soc. Lond., 1877, 550 (Zamboanga, Philippines); Voy. 'Challenger,' ii, Birds, 1881, 23 (Zamboanga; Mindanao).—BLAKISTON and PRYER, Ibis, 1878, 218 (Yezo, Tokyo, and Yokohama, Japan).—PRJEVALSKY, Rowley's Orn. Misc., ii, 1877, 434 (s. e. Mongolia, May; Hoang-ho Valley, April; n. Alashan, Sept.; Lake Hanka, Aug.).—DAVID and OUSTALET, Ois. Chine, 1877, 424.—RAMSAY, Ibis, 1877, 464 (Burma); Tab. List Austral. Birds, 1888, 19.—LAYARD (E. L. and E. L. C.), Ibis, 1878, 264 (New Caledonia, "breeding"); 1879, 107 (New Caledonia); 1880, 232 (Loyalty Islands), 304 (New Hebrides), 305 (New Britain; Duke of York Island); 1881, 135 (New Hebrides); 1882, 532 (New Caledonia, "breeding;" habits), 544 (New Hebrides; Fiji Islands).—HUME and DAVISON, Stray Feath., vi, 1878, 455 (Tenasserim).—DAVIDSON and WENDEN, Stray Feath., vii, 1878, 88 (Deccan).—ANDERSON, Sci. Res. Exped. West Yunnan, 1879, 675 (Tapeng; Tsitkaw).—ROSENBERG, Malay

Archip., 1878-79, 378 (Kei Islands).—BUTLER, Cat. Birds Sind., etc, 1879, 57 (winter visitant); Cat. Birds S. Bombay Pres., 1880, 72.—SIEBOHM, Ibis, 1879, 25 (Japan; crit.), 153 (Siberia; crit.; habits; descr. nest and eggs); 1882, 22 (Helgoland), 222 (Astrakhan), 380 (Archangel, n. Russia); 1887, 180 (Liu Kiu Islands); 1888, 349 (Great Liakoff Islands, Siberia); 1890, 104 (Bonin Islands); 1893, 53 (Liu Kiu Islands); Hist. Brit. Birds, iii, 1885, 40; Birds Japanese Emp., 1890, 303; Geog. Distr. Charadriidæ, 1887, pp. xvi, 99.—MEYER, Ibis, 1879, 146 (Togian Island); Verh. z.-b. ges. Wien, 1881, 767 (Sumba).—SCULLY, Stray Feath., viii, 1879, 350 (Nepal Valley, Sept., Oct.); Ibis, 1881, 586 (Gilgit, India).—GÄTKE, Ibis, 1879, 104 (Helgoland).—VIDAL, Stray Feath., ix, 1880, 79 (s. Konkan).—BINGHAM, Stray Feath., ix, 1880, 196 (Thoungyeen Valley).—GIGLIOLI, Ibis, 1881, 184 (Malta).—KELHAM, Ibis, 1882, 8, 189 (localities in Malay Peninsula; habits).—CHEESMAN, Trans. Zool. Soc. Lond., xiv, 1882, 264 (Auckland District, New Zealand).—ELLIOTT, Mon. Pribylov Group, 1882, 129 (frequent straggler).—BLASIUS, Journ. für Orn., 1883, 139 (Celebes); Orn. vol. 4, 1888, 319 (Palawan, Philippines); Zeitschr. ges. Orn., iii, 1886, 140 (Celebes).—SCLATER, Proc. Zool. Soc. Lond., 1883, 52, 200 (Maroe, Timor-Laut).—OATES, Birds Brit. Burma, ii, 1883, 364.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 157.—ROBSON, Trans. New Zealand Inst., xvi, 1884, 308 (Portland Island, New Zealand, Jan.).—FORBES, Proc. Zool. Soc. Lond., 1884, 43 (Tenimber Island).—FINSCH, Voy. Sudsee, 1884, 55 (Marshall and Gilbert Islands).—FORBES (H. A.), Proc. Zool. Soc. Lond., 1884, 433 (Timor-Laut).—PLESKE, Bull. Ac. St. Petersb., xxix, 1884, 536 (Ternate).—BLAKISTON, Amend. List Birds Japan, 1884, 10.—RADDE, Birds Caucas., 1884, 43, 413 (winter).—NEHRKORN, Journ. für Orn., 1885, 35 (Waigiou).—KIRK, Trans. New Zeal. Inst., xvii, 1885, 59 (Worsen Bay, New Zealand).—BÜTTIKOFER, Notes Leyden Mus., ix, 1886, 79 (w. Sumatra).—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 585 (Olga Bay, Korea; crit.).—HARTERT, Journ. für Orn., 1889, 377 (Sumatra); Novit. Zool., vii, 1900, 9 (Ruk Island, centr. Carolines), 22 (Dammer Island, Banda Sea); ix, 1902, 218 (Deli, Sumatra); x, 1903, 62 (Batijan).—ST. JOHN, Ibis, 1889, 175 (s. Afghanistan).—EVERETT, Proc. Zool. Soc. Lond., 1889, 225 (Palawan).—STEELE, List. Birds and Mam. Exped. Philippines, 1890, 25 (Paragua, Balabac, Mindanao, Negros, and Siquijor Islands).—WHITEHEAD, Ibis, 1890, 59 (Palawan).—BUCKLEY and HARVEY-BROWN, Vertebr. Faun. Orkney Is., 1891, 202 (Nov.).—STYAN, Ibis, 1891, 330, 503 (lower Yangtse, China, Spring); 1893, 436 (Hainan).—LISTER, Proc. Zool. Soc. Lond., 1891, 299 (Phoenix Island).—DE LA TOUCHE, Ibis, 1892, 496 (Foochow, spring and autumn; Swatow, winter).—SCOTT-WILSON and EVANS, Aves Hawaiianes, pt. 3, 1892.—HARTLAUB, Abh. nat. Ver. Bremen, xii, 1892, 331 (Hainan, Dec.).—WIGLESWORTH, Ibis, 1893, 213 (Gilbert Islands).—HOSE, Ibis, 1893, 424 (Borneo, winter).—ROTHSCHILD, Avif. Laysan, pt. i, 1893, 11.—MEYER and WIGLESWORTH, Journ. für Orn., 1894, 250 (Talaud Island).—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 45, pl. 11.—POPHAM, Ibis, 1897, 102 (Yeneseisk, Siberia; notes; descr. nest and eggs); 1898, 512 (Golchika, Yenesei R., Siberia; descr. nest, eggs, and downy young).—REICHENOW, Journ. für Orn., 1897, 216 (Kaiser Wilhelm's Land, New Guinea).—KAISER, Journ. für Orn., 1902, 256 (Nauru Island).—HEINROTH, Journ. für Orn., 1902, 400 (Bismarck Archipelago).—JESSE, Ibis, 1903, 162 (Lucknow and Fyzabad, India).—MATHEWS, Birds Australia, iii, 1913, pl. [133] facing p. 74.

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- [*Pluvialis*] *taiensis* BONAPARTE, Compt. Rend., xliii, 1856, 417.
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 Charadrius mongolicus (not of Pallas, 1826) BLAKISTON, Ibis, 1862, 330 (Hakodate, Japan).
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 [Charadrius] dominicus SHARPE, Hand-list, i, 1899, 152 part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 65, part.

Genus EUDROMIAS Brehm.

- Eudromias BREHM, Isis, xxiii, 1830, 987. (Type, by monotypy, Charadrius morinellus Linnæus.)
 Morinellus (not Morinella Meyer and Wolf, 1810) BONAPARTE, Compt. Rend., xliii, 1856, 417. (Type, by tautonymy, Charadrius morinellus Linnæus.)

Medium-sized Charadriidæ (wing 137–149 mm.) with very small slender bill (much less than half as long as head) and more or less streaked upper parts.

Bill small and slender, much less than half as long as head, the exposed culmen shorter than distance from its base to anterior angle of eye and much shorter than middle toe without claw, its terminal third (approximately) distinctly convex, the gonys straight or very faintly convex, its basal angle not conspicuous; nasal groove extending for less than two-thirds the length of maxilla. Wing moderately long, very pointed, the longest primary (outermost) exceeding distal secondaries by decidedly more than half the length of folded wing, and extending slightly beyond tips of longest tertials. Tail about half as long as wing, rounded or slightly graduated, the rectrices subacuminate at tips, especially the middle pair. Tarsus slender,

about one-fourth as long as wing, the acrotarsium with rather large transverse scutella, the planta tarsi with much smaller quadrate scales, the sides of tarsus with small hexagonal scales; middle toe, without claw, more than half as long as tarsus, the outer and inner toes, successively, much shorter; hallux absent; a well-developed web between basal phalanges of outer and middle toes, but none between inner and middle toes.

Coloration.—Adults with chest brownish gray or grayish brown, margined below by a narrow dusky and broad white band; breast and sides cinnamon, encircling a dusky abdominal area; a broad white supra-auricular stripe; scapulars, wing-coverts, and tertials dusky broadly margined with buffy. Young conspicuously streaked on upper parts with buffy, the under parts mostly buffy.

Range.—Northern Europe and Asia, south in winter to northern Africa, etc.; accidental in Alaska. (Monotypic.)

EUDROMIAS MORINELLUS (Linnaeus).

DOTTEREL.

Adults in breeding plumage (sexes alike).—Pileum dull black or blackish fuscous, more or less streaked, especially medially and anteriorly (sometimes on forehead only) with pale buff, the anterior portion of forehead dull whitish, dull pale buffy or pale grayish, streaked or immaculate; a broad white superciliary stripe, extending from lores to nape, where those of opposite sides are confluent; loreal, suborbital and malar regions, chin, and throat white, more or less streaked, narrowly, with dusky, the chin and throat, however, usually immaculate or nearly so; upper portion of auricular region dusky, the lower posterior portion, together with neck (all round) and chest light brownish gray or grayish drab, the chest somewhat paler and sometimes tinged with buffy; general color of upper parts grayish drab, the scapulars, tertials, and wing-coverts margined with buff or cinnamon-buff, the interscapulars sometimes narrowly margined with the same; rump and upper tail-coverts pale grayish drab, indistinctly margined with buffy; remiges and primary coverts darker grayish brown or dusky, the secondaries and terminal portion of proximal primaries margined with dull buffy white; outermost primary with shaft white; tail grayish drab passing into dusky subterminally and tipped with pale brownish buff or buffy white, more broadly on lateral rectrices; a narrow band or bar, more or less distinct, of blackish or dusky across lower margin of chest, and immediately below this a broader band of white or buffy white; breast, sides, and flanks plain, tawny-olive, or sayal brown; abdomen (extensively), except lower portion, black; lower abdomen, anal region, and under tail-coverts immaculate white to pale buff; axillars and under wing-

coverts pale brownish gray; bill black; iris dark brown; legs and feet dusky (in dried skins).

Winter plumage.—Pileum conspicuously streaked with black and buffy (more or less deep); a supra-auricular stripe of immaculate cinnamon-buff to buffy white, extending from above eyes to nape, where those of opposite sides are confluent; hindneck light brownish gray, more or less distinctly streaked with buffy; interscapulars, scapulars, and wing-coverts deeper brownish gray, broadly margined with cinnamon-buff, the tertials darker (dusky) broadly margined with cinnamon; loreal, suborbital, rictal, and malar regions and lower portion of auricular region pale buff or buffy whitish, narrowly streaked with dusky; chin and throat immaculate buffy white, the lower throat and foreneck becoming gradually more buffy and narrowly streaked with dusky; chest pale brownish gray, the feathers indistinctly but rather broadly tipped with buff; a narrow band of dull whitish separating the jugular area from a similarly colored area covering sides of breast and (more narrowly) median portion of breast, the anterior portion of sides nearly uniform buffy wood brown; rest of under parts, including abdomen, immaculate white, passing into cinnamon-buffy on lateral under tail-coverts; otherwise, as in summer plumage.

Young.—Similar to winter adults but scapulars and interscapulars fuscous-black broadly edged or margined with pale buff; under parts pale buffy, the chest more or less streaked medially and spotted laterally with grayish brown, and pale band between chest and breast less distinct.

Downy young.—"Black above, mottled with spots of rufous or sandy buff; head patterned with black, with a conspicuous white forehead and eyebrow, with a black loreal streak and line of black down the centre of the forehead; round the back of the head a creamy white band."^a

Adult male.—Wing, 144–149.5 (146.9); tail, 67–72 (69); culmen, 16–16.5 (16.2); tarsus, 34–36 (34.7); middle toe, 18–20.5 (19.1)^b

Adult female.—Wing, 137–159 (147.6); tail, 66.5–73 (68.9); culmen, 15–19 (16.3); tarsus, 35–38.5 (36.1); middle toe, 19–21 (20).^c

Breeding in northern Europe and Asia, from British Islands and Norway to eastern Siberia; migrating southward to southern Europe and northern Africa; accidental in Alaska (King Island, July 23, 1897).

[*Charadrius*] *morinellus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148 (Sweden); ed. 12, i, 1766, 254.—GMELIN, Syst. Nat., i, pt. ii, 1789, 686.—LATHAM, Index Orn., ii, 1790, 746.—TURTON, Syst. Nat., i, 1806, 413.—GRAY, Hand-list, iii, 1871, 14, no. 9989.

^a Sharpe, Cat. Birds Brit. Mus., xxvi, 237.

^b Five specimens.

^c Seven specimens.

Charadrius morinellus TEMMINCK, Cat. Syst., 1807, 174; Man. d'Orn., 1815, 326; ii, 1820, 537.—LEACH, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 28.—VIBILLOR, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 140.—ROUX, Orn. Prov., 1825, pls. 273, 274.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 134, pl. 57.—WERNER, Atlas, Coureurs, 1827, pl. 5.—NAUMANN, Vög. Deutschl., vii, 1834, pl. 174.—GOULD, Birds Europe, iv, 1837, pl. 295 and text.—SELYS-LONGCHAMPS, Faune Belge, 1842, 121.—SCHLEGEL, Rev. Crit., 1844, p. lxxxii; Vog. Nederl, 1854, pl. 212; Dier. Nederl. Vogels, 1861, pl. 30, fig. 4.—KJÆRBÖLLING, Dänm. Fugle, 1852, pl. 30, fig. 4.—CASSIN, Proc. Ac. Nat. Sci. Phila., 1858, 195 (Japan).—SUNDEVALL, Svensk Fogl., 1856-72, 334, pl. 37, fig. 1; Oefv. K. Vet.-Ak. Förh. Stockholm, 1874, 21 (Spitzbergen).—HOMER, Journ. für Orn., 1870, 421 (e. Siberia).—GRAY (R.), Birds West Scotland, 1871, 254.—PALMÉN, Finlands Foglar, 1873, 78.—HEUGLIN, Orn. N. O.-Afrika, ii, pt. i, 1873, 1016 (Blue Nile; Lower Egypt).—FALLON, Ois. Belg., 1875, 151.—BUNGE, Mém. Biol. Mus. Ac. St. Petersb., xii, livr. 1, 1884, 62 (Lena Delta, Siberia).—SEEBOHM, Ibis, 1882, 380 (Archangel, Russia); Hist. Brit. Birds, iii, 1885, 30, pl. 26, figs. 1-3 (eggs); Geog. Distr. Charadriidæ, 1888, 113; Birds Japanese Emp., 1890, 305.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 51.—FRIVALDSKY Aves Hung., 1891, 122.—MADARÁSZ, Aust. Ungar. Vogelf., 1891, 102.

Eudromias morinellus BREHM, Vög. Deutschl., 1831, 545.—BONAPARTE, Geog. and Comp. List, 1838, 45.—MÜHLE, Beitr. Orn. Griechenl., 1844, 96.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 67.—THOMPSON, Birds Ireland, ii, 1850, 93.—HEUGLIN, Syst. Ueb., 1856, 56 (Egypt and Red Sea in winter); Ibis, 1872, 62 (Mathews and Yugorsky Straits, n. Russia; molt.); Journ. für Orn., 1872, 118 (European Arctic).—TRISTRAM, Ibis, 1860, 78 (n. Africa); Fauna and Flora Palestine, 1884, 130 (Beersheba).—LINDERMAYER, Vög. Griechenl., 1860, 134.—GOULD, Birds Great Brit., iv, 1862, pl. 43 and text.—RADDE, Reis. Sibir., Vög., 1863, 323 (e. Siberia); Orn. Caucas., 1884, 43, 415 (Caspian Sea).—GILLETT, Ibis, 1870, 306 (Novaya Zemlya).—FRITSCH, Vög. Eur., 1870, pl. 33, figs. 16, 17.—STEVENSON, Birds Norfolk, ii, 1870, 76.—SALVADORI, Faun. Ital., Ucc., 1871, 204; Elenco Ucc. Ital., 1886, 211.—SAUNDERS, Ibis, 1871, 386 (s. Spain); 1883, 349 (Siberian coast); ed. Yarell's Brit. Birds, iii, 1883, 246; Man. Brit. Birds, 1889, 521.—HARTING, Handb. Brit. Birds, 1872, 43.—SHELLEY, Birds Egypt, 1872, 236.—DYBOWSKI, Journ. für Orn., 1873, 101 (Dauria, breeding).—SEVERTZOV, Turkest. Jevotn., 1873, 69 (migrant).—TACZANOWSKI, Journ. für Orn., 1873, 101 (e. Siberia); Bull. Soc. Zool. France, i, 1876, 248 (Baikal, Dauria, breeding); ii, 1877, 155 (Poland, spring and autumn).—BROOKE, Ibis, 1873, 337 (Sardinia).—SAXBY, Birds Shetland, 1874, 162.—DRESSER, Birds Europe, vii, 1875, 507, pl. 526; Ibis, 1876, 327 (Turkestan); 1904, 229 (Taimyr Peninsula, Siberia, breeding).—IRBY, Orn. Straits Gibralt., 1875, 161.—CORDEAUX, Ibis, 1876, 184 (Helgoland).—BLANFORD, East. Persia, ii, 1876, 278 (Kagreen, w. of Shiraz).—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 289 (lower Petchora River, Russia).—SEEBOHM, Ibis, 1879, 155 (Koorayika River, lat. 71°, Siberia); 1882, 221 (Kirghis Steppes, Astrakhan, breeding); 1890, 403 (Ireland).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 160.—CHAPMAN, Ibis, 1885, 175 (Lapland).—GIGLIOLI, Avif. Ital., 1886, 371; 1st. Resoc. Avif. Ital., 1889, 569; 2nd Resoc., 1890, 561; 3rd Resoc., 1891, 511.—TARR, Ibis, 1887, 386 (Portugal).—KOENIG, Journ. für Orn., 1888, 83 (Tunis, Algeria); 1893, 83 (Tunis).—BUCKLEY and HARVIE-BROWN, Vertebr. Fauna Outer Hebrides, 1888, 125; Vetebr. Fauna Orkneys, 1891, 203; Vertebr. Fauna Argyll, 1892, 166.—MEADE-WALDO, Ibis, 1889, 515 (Canary Islands); 1893, 203

- (Canaries).—EVANS, Ibis, 1891, 79 (breeding habits).—MACPHERSON, Vertebr. Fauna Lake-land, 1892, 348.—GRANT, Bull. Brit. Orn. Club, i, 1893, p. iv (Scotland, breeding).—PEARSON and BIDWELL, Ibis, 1894, 232 (n. Norway, breeding).—POYNTING, Eggs Brit. Birds, pt. i, 1895, 15, pl. 4.—PEARSON, Ibis, 1896, 211 (Russian Lapland; habits, descr. eggs), 223 (Novaya Zemlya; descr. eggs); 1898, 199 (Waigats, Dolgoi Island, and Habarova, n. e. Russia).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 231, 741.—POPHAM, Ibis, 1897, 102 (Yenesai River, lat. 72°, Siberia); 1898, 513 (Yenesai River; Yeneseisk; lat. 69° 40' N.).—HARTERT, Ibis, 1904, 420 (Lena River, Siberia, breeding; habits).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 126 (accidental on King Island, Alaska).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 24 (Nijni Kolymak, e. Siberia: crit.).—BROOKS, Bull. Mus. Comp. Zool., lix, 1915, 378 (Providence Bay, n. e. Siberia, breeding).
- [*Eudromias*] *morinellus* SHARPE, Hand-list, i, 1899, 153.
- Pluvialis morinellus* MACGILLIVRAY, Man. Brit. Birds, ii, 1842, 50; Brit. Birds, iv, 1850, 104.
- Charadrius* (*Eudromias*) *morinellus* MIDDENDORFF, Reis. Sibir., Zool., 1851, 211 (Taimyr River, lat. 73½°, June; Boganida, May, Aug.).
- Charadrius tartaricus* PALLAS, Reis. Russ. Reichs, ii, 1773, 715.
- [*Charadrius*] *tartaricus* LATHAM, Index Orn., ii, 1790, 746.
- Charadrius angulus* MÜLLER, Syst. Nat., Anhang, 1776, 117 (England; based on Guignard d'Angleterre Brisson, Orn., v, 1760, 58).
- Charadrius sibiricus* LEPECHIN, Iter., ii, 1771–86, pl. 6 (not binomial).
- [*Charadrius*] *sibiricus* GMELIN, Syst. Nat., i, 1789, 690.—LATHAM, Index Orn., ii, 1790, 747.
- [*Morinellus*] *sibiricus* BONAPARTE, Compt. Rend., xliii, 1856, 417.
- Morinellus sibiricus* SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursorees), 1865, 46.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 129.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 265.
- Morinellus anglorum* GAMBEL, Journ. Ac. Aci. Phila., 2d ser., i, 1849, 221.
- Eudromias montana* BREHM, Vög. Deutschl., 1831, 546.
- Eudromias stolidus* BREHM, Vög. Deutschl., 1831, 547.

Genus OXYECHUS Reichenbach.

Oxyechus REICHENBACH, Syst. Avium, 1853, p. xviii. (Type by original designation, *Charadrius vociferus* Linnæus.)

Medium-sized Charadriidæ (wing 135–170 mm.) with tail much more than half as long as wing, graduated; bill slender, with culmen not longer than middle toe without claw, and with two black bands across foreneck and chest, and rump ochraceous.

Bill slender, much shorter than head, the exposed culmen about as long as middle toe without claw or slightly shorter; nasal groove extending about two-thirds the length of maxilla; terminal third (approximately) of culmen distinctly convex, the gonys slightly convex. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of folded wing, and extending slightly beyond tips of longest tertials. Tail much more than half as long as wing, graduated for more than one-sixth its length, the rectrices becoming slightly narrower distally,

but with rounded tips. Tarsus slender, more than one-fifth as long as wing, covered with irregular small scales, these larger and inclining more or less to a transverse quadrate form on acrotarsium; middle toe, without claw, decidedly more than half as long as tarsus, the outer and inner toe, successively, much shorter; hallux absent; a small but distinct web between basal phalanges of outer and middle toes, but none between inner and middle toes; bare portion of tibia decidedly shorter than culmen.

Coloration.—Forehead, nuchal collar, and under parts white, the latter interrupted by a black band across foreneck and another across chest; upper parts mostly grayish brown, the rump ochraceous.

Range.—Temperate North America and Greater Antilles; south in winter to Chile, Paraguay, etc. (Monotypic.)

OXYECHUS VOCIFERUS VOCIFERUS (Linnaeus).

KILLDEER.

Adults (sexes alike).—General color of upper parts, including auricular region, grayish brown, the rump and upper tail-coverts ochraceous, the latter paler, more buffy; forehead, supra-auricular area, chin, throat, collar round hindneck and under parts immaculate white, that of the under parts interrupted by a black collar completely encircling the lower neck and a broader black band across chest; fore part of crown, and a narrow stripe across lores (from bill to eye and including anterior edge of forehead) and a postocular streak also black; primaries blackish, the proximal ones with some white on outer webs; greater wing-coverts broadly tipped with white; distal secondaries dusky with white base and tip, the dusky decreasing toward proximal secondaries, the innermost of which are wholly white; primaries dusky with a subterminal shaft-streak of white, the proximal quills with a subterminal elongated space of white on outer webs; middle rectrices grayish brown, darker subterminally and ochraceous at tip, the tail otherwise mostly light ochraceous or ochraceous-buff, fading into white on lateral rectrices, broadly tipped with white and with a subterminal bar of black; bill black; iris dark brown; eyelids orange-red or scarlet; legs and feet pale pinkish gray to grayish yellow (in life).

Young.—Similar to adults, but feathers of upper parts more or less distinctly margined with rusty, ochraceous, or buffy.

Downy young.—Upper parts brownish gray or drab, minutely and rather indistinctly mottled or flecked with darker; a narrow black band across fore part of crown and from posterior angle of eye around posterior margin of occiput; lower back and rump with an irregular median stripe and two lateral stripes of black, the space immediately beneath the latter immaculate dull pinkish cinnamon; a black band across wing, the posterior edge of the arm-wing and

whole of the hand-wing white; forehead, malar region, chin, throat, nuchal collar, and under parts of body white, the latter deepening into pinkish cinnamon on under tail-coverts and flanks; a black loreal streak, continued, more narrowly, beneath a cinnamon-whitish sub-orbital spot; a band of black completely encircling lower neck.

Adult male.—Wing, 154–167 (160.2); tail, 88–103 (95.6); culmen, 19–23 (20.3); tarsus, 33–36.5 (34.6); middle toe, 20–23 (21.7).^a

Adult female.—Wing, 147–170 (160.1); tail, 90–103 (94.9); culmen 19.5–22 (20.4); tarsus, 32–37 (35.2); middle toe, 20.5–22 (21.4).^b

Temperate North America, breeding north to central Quebec (Point de Monts), central Keewatin, southern Mackenzie, and central British Columbia, south to Gulf Coast of United States, Bahamas (New Providence; Little Abaco) (?) and central Mexico; winters from Pacific coast of United States (north to Puget Sound), Arizona, Texas, southern Illinois and Indiana, New Jersey, and Bermudas, southward to Peru (Tambo Valley; Pacasmayo), and Venezuela, casually (?) to Paraguay and Chile; casual in Newfoundland; accidental in British Islands (River Avon, England, April, 1857; Peterhead, Scotland, 1867).

[*Charadrius*] *vociferus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 150 (Virginia and [South] Carolina; based on *Chattering Plover*, *Pluvialis vociferus* Catesby, Nat. Hist. Carolina, i, 1730, 71, pl. 71); ed. 12, i, 1766, 253.—GMELIN, Syst. Nat., i, pt. ii, 1789, 685.—LATHAM, Index Orn., ii, 1790, 742.—TURTON, Syst. Nat., i, 1806, 413.—GRAY, Hand-list, iii, 1871, 14, no. 9987, part.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 48 (England).

Charadrius vociferus WILSON, Am. Orn., vii, 1813, 73, pl. 59, fig. 6.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 141.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 297.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 368.—JARDINE, ed. Wilson's Am. Orn., ii, 1832, pl. 59, fig. 6.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 22.—AUDUBON, Orn. Biog., iii, 1835, 191, pl. "215"—225; v, 1839, 577; Synopsis, 1839, 222; Birds Am., 8vo ed., v, 1842, 207, pl. 317.—VIGORS, Zool. Voy. "Blossom," Birds, 1839, 29.—TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—PEABODY, Rep. Orn. Mass., 1839, 360.—GRAY, List Birds Brit.

^a Eighteen specimens.

^b Fourteen specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Mid- dle toe.
MALES.					
Five adult males from eastern United States.....	158.2	95	20.6	35.1	21.3
Thirteen adult males from western United States.....	161	95.5	20.2	34.5	21.7
Sixteen adult males from West Indies (<i>O. v. rubidus</i>).....	148.7	88.5	20.2	34	21.1
FEMALES.					
Three adult females from eastern United States.....	159.5	93.5	20.2	34.9	21.4
Eleven adult females from western United States.....	165	99.7	21.2	35.2	21.3
Nine adult females from West Indies (<i>O. v. rubidus</i>).....	150.3	89.8	20.4	34.2	20.7

- Mus., Grallæ, 1844, 71; List Brit. Birds, 1863, 142.—McCALL, Proc. Ac. Nat. Sci. Phila., 1851, 232 (Texas).—BAIRD, in Stansbury, Rep. Great Salt Lake, 1852, 319.—WOODHOUSE, Expl. Zuffi and Col. R., 1853, 96.—WALKER, Rep. Agric., etc., Miss., 1854, 321.—HENRY, Proc. Ac. Nat. Sci. Phila., 1855, 315 (New Mexico).—KENNICOTT, Trans. Illinois Agric. Assoc., i, 1855, 587.—PRATTEN, Trans. Illinois Agric. Assoc., i, 1855, 607 (Illinois).—PUTNAM, Proc. Essex Inst., i, 1856, 216 (Massachusetts).—HAYMOND, Proc. Ac. Nat. Sci. Phila., 1856, 294 (Franklin Co., Indiana).—MOORE, Proc. Zool. Soc. Lond., 1859, 63 (Omoa, Honduras).—MARTENS, Journ. für Orn., 1859, 217 (Bermuda).—BLAND, Ann. Rep. Smithsonian Inst. for 1858 (1859), 288 (Bermuda).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Curores), 1865, 23.—HOY, Ann. Rep. Smithsonian Inst. for 1864 (1865), 438 (Missouri).—FRANTZIUS, Journ. für Orn., 1869, 378 (Costa Rica).—TRIPPE, Proc. Essex Inst., vi, 1871, 119 (Iowa).—SEEBOHM, Geog. Distr. Charadriidæ, 1888, 120.
- C[haradrius] vociferus* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 100 (crit.); Obs. Nomencl. Wilson's Am. Orn., 1826, [182].—GAMBEL, Journ. Ac. Sci. Phila., 2d ser., i, 1849, 220 (coast of California).—CABANIS, Journ. für Orn., 1859, 82 (Missouri River).
- Ægialites vociferus* BONAPARTE, Geog. and Comp. List, 1838, 45.—JARDINE, Contr. Orn., 1849, 83 (Bermudas, winter).—HURDIS, Jardine's Contr. Orn., 1850, 9 (Bermudas, winter).—BURNETT, Proc. Bost. Soc. N. H., iv, 1851, 116 (upper South Carolina, winter).—SCLATER, Proc. Zool. Soc. Lond., 1857, 127 (California), 206 (Jalapa, Vera Cruz); 1859, 369 (Jalapa), 393 (Oaxaca); 1864, 178 (Valley of Mexico); Ibis, 1862, 275 (River Avon, England, 1 spec., April, 1857).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas).—TAYLOR, Ibis, 1860, 313 (Tigre Island, Honduras).—COUES, Ibis, 1865, 158 (Kansas); Check List, 2nd ed., 1882, no. 584.—SALVIN, Ibis, 1865, 191 (Guatemala); Proc. Zool. Soc. Lond., 1870, 219 (Volcan de Chiriqui, Panama).—DRESSER, Ibis, 1866, 33 (s. Texas).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 176 (Tambo Valley, w. Peru), 570 (w. Peru); 1870, 838 (coast Honduras).—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 238 (Point de Monts, Quebec, breeding).
- Æ[gyalites] vociferus* COUES, Key N. Am. Birds, 2nd ed., 1884, 600.
- Ægialites vocifera* ELLIOT, North Am. Shore Birds, 1895, 176, pls. 56, 57.
- Ægialites vociferus* GOSSE, Birds Jamaica, 1847, 330.—XANTUS, Proc. Ac. Nat. Sci. Phila., 1859, 192 (Ft. Tejon, California).—SCLATER and SALVIN, Ibis, 1859, 227 (Guatemala).—BARNARD, Ann. Rep. Smithsonian Inst. for 1860 (1861), 438 (Chester Co., Pennsylvania).—BLAKISTON, Ibis, 1862, 8 (Saskatchewan).—VERRILL, Proc. Essex Inst., iii, 1862, 157 (Oxford Co., Maine).—McILWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 84 (Arizona); Check List, 1873, no. 397.—HARTING, Handb. Brit. Birds, 1872, 134 (England, accidental).—MERRIAM, Rep. U. S. Geol. Surv. Terr., 1873, 713, 714 (Fire-Hole Basin, Wyoming; Utah); Am. Nat., viii, 1874, 9 (Aiken, S. C., March 14–April 5).—HENSCHAW, Ann. Lyc. N. Y., xi, 1874, 10 (Utah).—COOPER, Am. Nat., viii, 1874, 18 (Cuyamaca Mts., Cal.).—ALLEN, Proc. Bost. Soc. N. H., xvii, 1874, 66 (Dakota and Montana).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 445 (New England, summer).—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 342 (Utah), 347, 350 (Nevada), 364 (California).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 229 (Bermudas, frequent).
- [*Ægialitis*] *vociferus* COUES, Key N. Am. Birds, 1872, 244.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 25, part (Bahamas).
- Æ[gyalitis] vociferus* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 383 (Illinois).

Aegialitis vociferus CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 692.—BAIRD, Cat. N. Am. Birds, 1859, no. 504; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (near Matamoros and Boca Grande, Tamaulipas); Proc. Ac. Nat. Sci. Phila., 1859, 306 (Cape San Lucas).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 478 (Panama); viii, 1867, 294 (vicinity New York City); ix, 1869, 141 (Costa Rica).—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 96 (Ft. Whipple, Arizona); 1871, 28 (Ft. Macon, North Carolina); Proc. Bost. Soc. N. H., xii, 1868, 121 (South Carolina); Proc. Essex Inst., v, 1868, 291 (New England).—BUTCHER, Proc. Ac. Nat. Sci. Phila., 1868, 150 (Laredo, Texas).—STEVENSON, Rep. U. S. Geol. Surv. Terr., 1871, 466 (Camp Reynolds, Wyoming).—TRIPPE, Proc. Bost. Soc. N. H., xv, 1873, 240 (a Iowa, breeding).—TURNBULL, Birds E. Penn. and N. J., 1869, 37 (Phila. ed., 28).

Aegialites vociferus ALBRECHT, Journ. für Orn., 1861, 155 (Bahamas).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 209 (Sisal, Yucatan).

Egialitis vocifera BLAKISTON, Ibis, 1863, 129 (Saskatchewan).—COUES, Birds Northwest, 1874, 452.—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 46 (Santa Efigenia, Oaxaca).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 160 (Fort Brown, Texas, resident); Auk, xv, 1897, 352 (Fort Sherman, Idaho, breeding).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1879, 244 (Pacasmayo, Peru); Orn. du Pérou, iii, 1886, 342.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 547 (Medellin, Antioquia, Colombia).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 144 (1 record for England).—BUTLER, Bull. 2, Brookville Soc. N. H., 1886, 21 (Franklin Co., Indiana, remaining in mild winters).—SETON, Auk, iii, 1886, 152 (Manitoba, common summer resident).—SCOTT, Auk, iii, 1886, 386 (San Pedro Valley, Arizona, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 273.—ZELEDÓN, Anal. Mus. Nac. C. R., i, 1888, 129 (Alajuela, San Jose, and Cartago, Costa Rica).—CHADBOURNE, Auk, vi, 1889, 255 (unusual flight along New England coast, Nov., 1888).—PORTING, Eggs Brit. Birds, pt. iii, 1896, 37, pl. 9.—BEYER, Proc. La. Soc. Nat. for 1897-99 (1900), 97 (Louisiana, resident).—BONHOTE, Ibis, 1903, 300 (New Providence and Little Abaco islands, Bahamas; habits).—PYCRAFT, Ibis, 1904, 669, in text (Peterhead, Scotland, 1 spec., 1867).

[*Egialitis*] *vocifera* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.

Hiaticula vocifera GRAY, List Birds Brit. Mus., iii, Grallae, 1844, 71.

[*Hiaticula*] *vocifera* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 94.

Oxyechus vociferus REICHENBACH, Grallatores, 1852, p. xviii, pl. 172, figs. 725-726.—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Mass.; summer).—BOUCARD, Liste Ois. récol. Guat., 1878, 15; Proc. Zool. Soc. Lond., 1878, 44 (San Jose Valley, Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am. Birds, no. 516); Nom. N. Am. Birds, 1881, no. 516.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 148, part.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 242, 272, part (Dueñas, Guatemala; Tambo Valley, Peru; Paraguay; etc.—SALVIN and GODMAN, Biol. Centr.-Am., Aves., iii, 1903, 355, part.—INKING, Revista Mus. Paulista, vi, 1904, 343 (Paraguay).—WILLIAMS (R. W.), Auk, xxi, 1904, 453 (Leon Co., Florida, resident).—MILLER (W. de W.), Bull. Am. Mus. N. H., xxii, 1906, 162 (Rancho Baillon, n. w. Durango, breeding).—SHARP, Condor, ix, 1907, 86 (San Diego Co., California, breeding).—BEYER, ALLISON, and KOPMAN, Auk, xxv, 1908, 180 (Louisiana, breeding).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 416 (Costa Rica).—

AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 128.—BOWLES, Auk, xxviii, 1911, 172 (Puget Sound, winter resident).—WOOD (N. A.), Fourteenth Rep. Mich. Acad. Sci., 1912, 183 (Charity Island, Michigan, breeding).—BERTONI, Fauna Parag., 1914, 39.

[*Oxyechus vociferus* BONAPARTE, Compt. Rend., xliii, 1856, 417.—SHARPE, Handlist, i, 1899, 154, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 66, part (Nova Scotia; Jasper House; Bolafios, Jalisco; Coban, Guatemala).

Oxyechus vociferus vociferus THAYER and BANGS, Condor, ix, 1907, 136 (Rosario, Lower California, Nov.).—HORSBROUGH, Ibis, 1916, 681 (Buffalo Lake, Alberta).

Charadrius (Aegialites) vocifer GLOGER, Journ. für Orn., 1855, 108.

[*Oxyechus*] *vocifer* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 335 (Mexico).

OXYECHUS VOCIFERUS RUBIDUS Riley.

WEST INDIAN KILLDEER.

Similar to *O. v. vociferus* but smaller and coloration darker.

Adult male.—Wing, 135–165 (148.7); tail, 80–100 (88.5); culmen, 19–22 (20.2); tarsus, 31–36.5 (34); middle toe, 19–22.5 (21.1).^a

Adult female.—Wing, 139–163 (150.3); tail, 83–106 (89.8); culmen, 20–21 (20.4); tarsus, 32–36 (34.2); middle toe, 20–22 (20.7).^b

Greater Antilles: Cuba (San Diego de los Baños; San Cristóbal; Guamá; Guanajáy; Santiago; Piñar del Rio), Isle of Pines (Nueva Gerona), Haiti (La Vega, Puerta Plata, and Almercén, Santo Domingo), Jamaica (near Spanishtown), and Porto Rico (Manate; Mameyes; Comário; Caguás; Vieques Island).

[*Charadrius*] *torquatus* (not of Pontoppidan, 1763) LINNÆUS, Syst. Nat., ed. 12, i, 1766, 255 (Santo Domingo; based on *Pluvialis dominicensis torquatus* Brisson, Orn., v, 1760, 70, pl. 6, fig. 2).—GMELIN, Syst. Nat., i, pt. ii, 1789, 685.

Oxyechus vociferus torquatus BANGS and ZAPPEY, Am. Nat., xxxix, April, 1905, 195 (Isle of Pines, Cuba; crit.).

(f) [*Charadrius*] *jamaicensis* MÜLLER, Natursyst., Anhang, 1776, 117 (Jamaica; based on Browne, Jamaica, p. 477).—GMELIN, Syst. Nat., i, pt. ii, 1789, 685.—LATHAM, Index Orn., ii, 1790, 743.—TURTON, Syst. Nat., i, 1806, 413.

^a Sixteen specimens.

^b Nine specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Cuba.....	153	92.4	19.6	33.5	21.4
One adult male from Isle of Pines.....	135	83.5	19.5	35.5	20
Two adult males from Jamaica (November).....	158.5	94	19.7	35.2	21.5
Eight adult males from Porto Rico.....	145.3	85.2	20.9	33.9	20.9
FEMALES.					
Three adult males from Cuba.....	157.3	95	20.2	34	20.8
Six adult males from Porto Rico.....	146.7	87.2	20.6	34.3	20.7

- (f) *Charadrius jamaicensis* VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 136.
 [*Charadrius vociferus*] β LATHAM, Index Orn., ii, 1790, 743 (= *C. torquatus* Linnæus).
Charadrius vociferus (not of Linnæus) D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1840, 246.—HARTLAUB, Naumannia, ii, 1852, 53 (Cuba; Haiti).—
 BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 97 (Santo Domingo).—SUNDEVALL, Oefv. K. Vet.-Akad. Förh., 1869, 602 (Porto Rico).
Egialitis vociferus GOSSE, Birds Jamaica, 1847, 330.—SALLÉ, Proc. Zool. Soc. Lond., 1857, 236 (Santo Domingo).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 66 (Jamaica).—CORY, Birds Haiti and San Dom., 1885, 141.
Egialitis vociferus ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).
Egialitis vocifera CORY, Auk, iv, 1887, 228, part (West Indian references and localities, except Bahamas); vii, 1900, 374 (Anegada), 375 (Virgin Gorda); ix, 1902, 272 (San Diego de los Baños, Cuba); Birds West Ind., 1889, 228, part (except Bahamas); Cat. West Ind. Birds, 1892, 96, part (except Bahamas).—SCOTT, Auk, ix, 1892, 14 (Jamaica, resident, breeding).—CHRISTY, Ibis, 1897, 337 (La Vega and Puerta Plata, Santo Domingo, July; habits).—SCLATER, Revised List Birds Jamaica, 1910, 21 (breeding).
Egialitis vocifera NEWTON (A. and E.), Handb. Jamaica, 1881, 115.
Ozyechus vociferus GUNDLACH, Journ. für Orn., 1856, 424 (Cuba); 1862, 88 (crit.), 1874, 313 (Porto Rico); 1875, 333 (Cuba; habits); 1878, 162, 189 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 359; Anal. Soc. Esp. Hist. Nat., vii, 1878, 382 (Porto Rico).—STAHL, Ornith., vol. 3, 1887, 452 (Porto Rico).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 242, 742, part (Jamaica; San Cristobal, Cuba).
 [*Ozyechus*] *vociferus* GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).—SHARPE, Hand-list, i, 1899, 154, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 66, part (Jamaica; Almercen, Santo Domingo).
Ozyechus vociferus WELLS, List Birds Grenada, 1886, 7.
Charadrius (Egialitis) vociferus BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 97 (Santo Domingo).
Ozyechus vociferus rubidus RILEY, Proc. Biol. Soc. Wash., xxii, April 17, 1909, 88 ("small resident West Indian Killdeer;" new name for *Charadrius torquatus* Linnæus, 1766, not Pontoppidan, 1763).—WESTMORE, Bull. 326, U. S. Dept. Agric., 1916, 99 (Porto Rico, resident; habits; food).

Genus PODASOCYS Coues.

Podasocys^a COUES, Proc. Ac. Nat. Sci. Phila., Jan., 1866, 96. (Type, by original designation, *Charadrius montanus* Townsend.)

Medium-sized Charadriidæ (wing 138–155 mm.) with culmen not longer than middle toe with claw; tarsus twice as long as middle toe without claw, more than one-fourth as long as wing; tail decidedly less than half as long as wing, slightly rounded; and without any black on under parts.

Bill relatively small and slender, much shorter than head, its depth at base equal to less than half the length of exposed culmen, the latter equal to or slightly shorter than middle toe with claw; distal portion (less than half) of culmen distinctly though slightly arched; gonys as long as mandibular rami, nearly straight, ascending termi-

^a From *podas okis*, swift-footed. (Coues.)

nally, its basal angle rather prominent. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by much more than half the length of wing and extending decidedly beyond tip of longest tertials. Tail decidedly less than half as long as wing, slightly rounded or double-rounded, the lateral rectrices slightly shorter than middle pair. Tarsus long and relatively slender, twice as long as middle toe without claw, more than one-fourth as long as wing, covered with small hexagonal scales, these larger in front, where on lower portion forming transverse scutella, those on planta tarsi forming (at least sometimes) a single continuous series of small transverse scales; outer toe decidedly shorter than middle toe, the inner toe still shorter; a small web between basal phalanges of outer and middle toes, but none between inner and middle toes; claws very small and short, but rather strongly curved; hallux absent.

Coloration.—Adults with under parts immaculate dull white shaded on sides of chest with brownish buff; forehead and a broad superciliary stripe white; loreal stripe and fore part of crown black; rest of upper parts buffy grayish brown, the feathers more or less distinctly margined with buff, the primaries, etc., dusky with outer webs of proximal quills white basally.

Range.—Arid plains of temperate western North America. (Monotypic.)

PODASOCYS MONTANUS (J. K. Townsend).

MOUNTAIN PLOVER.

Adults in breeding plumage (sexes alike).—Forehead and superciliary stripe white; a narrow loreal stripe, from bill to eye, and a patch on fore part of crown (sometimes covering whole crown) black; rest of upper parts buffy grayish brown, usually more or less tinged with buff or ochraceous, the feathers more or less distinctly margined with ochraceous or buffy; greater wing-coverts tipped with white; primaries dusky with whitish shafts, the proximal quills with basal portion of outer web white; tail grayish brown, tipped with whitish and crossed by a subterminal band of darker grayish brown or dusky; under parts (including lower portion of side of head) immaculate dull white, more or less distinctly shaded on chest with pale buffy grayish and, sometimes, tinged with buffy or ochraceous; bill black; iris dark brown; legs and feet dull light brownish yellow (in life).

Winter plumage.—Similar to the summer plumage, but black loreal streak and crown patch wanting (the latter replaced by grayish brown), and plumage in general more strongly suffused or tinged with buff.

Young.—Similar to winter adults but whole side of head and neck, together with chest, deep creamy buff, and feathers of upper parts distinctly margined with light buff.

Downy young.—Upper parts pale brownish buff irregularly mottled with black, this forming a distinct marbling on crown and occiput, where the ground-color is lighter and clearer buff; forehead and superciliary region (broadly), sides of head, and under parts immaculate buff; a narrow postocular streak of black terminating posteriorly in a large irregular spot or blotch of black.

Adult male.—Wing, 138–154 (146.7); tail, 57–69 (65.4); culmen, 19–22 (20.6); tarsus, 37–40.5 (38.4); middle toe, 17.5–19.5 (18.3).^a

Adult female.—Wing, 143–155 (148.2); tail, 61–67 (64.2); culmen, 21–22.5 (21.9); tarsus, 37–39 (38.3); middle toe, 17–20 (18.5).^b

Arid plains of west-central United States, breeding from western Nebraska and northern Montana, south to northern New Mexico and northwestern Texas; wintering from northern California and southern Texas to southern Lower California (San Telmo; Tia Juana; La Paz) and northern Mexico (Hermosillo, Sonora; Matamoros, Tamaulipas; Zacatecas). Accidental in Massachusetts (Chatham, Oct. 28, 1916).

Charadrius montanus TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., vii, 1837, 192 ("central table-land of the Rocky Mountains," i. e., near Sweetwater River, Wyoming); viii, 1839, 156; Narrative, 1839, 349.—ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., vii, 1837, 193 (Columbia River).—AUDUBON, Orn. Biog., iv, 1838, 362, pl. 350; Synopsis, 1839, 223; Birds Am., 8vo. ed., v, 1842, 213, pl. 318.—SEEBOHM, Geog. Distr. Charadriidae, 1888, pp. xvii, 153.

[*Charadrius*] *montanus* GRAY, Gen. Birds, iii, 1847, 544.—GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 220 (coast of California).

[*Charadrius*] *montanus* GRAY, Hand-list, iii, 1871, 15, no. 9997.

Egialitis montanus BONAPARTE, Geog. and Comp. List., 1838, 45.—DRESSER, Ibis, 1866, 33 (s. Texas).—COUES, Ibis, 1866, 266 (s. California).

Egialitis montanus CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 693.—BAIRD, Cat. N. Am. Birds, 1859, no. 505.—COUES, Ibis, 1865, 159 (New Mexico).—COOPER, Am. Nat., iii, 1869, 82 (e. base Rocky Mts., Montana).—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 2, 1866 (vol. ii), pl. 39.

Egialitis montanus ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 141 (Fort Hays, w. Kansas), 181 (middle Kansas; plains of Colorado and Wyoming; South Park, Colorado); Am. Nat., vi, 1872, 359, 360 (Kansas); Proc. Bost. Soc. N. H., xvii, 1874, 66 (Yellowstone Park).—RIDGWAY, Am. Nat., viii, 1874, 109 (crit.).—GRINNELL (G. B.), in Ludlow's Rep. Recon., 1876, 86 (Haymaker's Creek, Montana, breeding).

Egialitis montana BELDING, Proc. U. S. Nat. Mus., i, 1879, 440 (Stockton and Marysville, California, Oct.–Dec.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 281.—COOPER, Auk, ii, 1887, 91 (near Saticoy, Ventura Co., California, Dec.).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2nd ser., ii, 1889, 275 (San Telmo and Tia Juana, Lower California, winter).—COOKE, Bull. 56, Col. Agric. Exp. Station, 1900, 199 (South Park, Colorado, breeding).

[*Egialitis*] *montana* RIDGWAY, Man. N. Am. Birds, 1887, 176.

Egialitis montanus COOPER, Amer. Nat., iii, 1869, 298 (near Great Falls, Montana).

^a Eight specimens.

^b Five specimens.

- Aegialitis montanus* BAIRD, in Rep. Ives' Expl. Col. R., pt. 1, 1861, 6.
Oxyechus montanus HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).
Ochthodromus montanus BONAPARTE, Compt. Rend., xliii, 1856, 417.
Podasocys montanus COUES, Proc. Ac. Nat. Sci. Phila., 1866, 96 (Fort Whipple, Arizona; New Mexico; habits); Check List, 2nd ed., 1882, no. 592.—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 2, 1866 (vol. ii), text to pl. 39.—COOPER, Am. Nat., iii, 1869, 183 (near Los Angeles, Cal.).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 523.—BROWN (N. C.), Bull. Nutt. Orn. Club, vii, 1882, 41 (Boerne, Kendall Co., Texas, Jan. 2–Mar. 17).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 172.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 130.—SAUNDERS, Auk, xxviii, 1911, 35 (Gallatin Co., Montana, breeding).—PHILLIPS, Auk, xxviii, 1911, 74 (Tamaulipas, Nov. 30).—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 145 (w. Kansas, common summer resident).—BROOKS (W. S.), Auk, xxxiv, 1917, 86 (Chatham, Massachusetts, 1 spec. Oct. 28, 1916).
P[odasocys] montanus COUES, Key N. Am. Birds, 2d ed., 1884, 604.
[Podasocys] montanus SHARPE, Hand-list, i, 1899, 153.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 6.
Podasocys montana RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 523).
[Aegialitis] asiaticus var. *montanus* COUES, Key N. Am. Birds, 1872, 245.
Aegialitis asiaticus . . . var. *montanus* COUES, Check List, 1873, no. 402.
Eudromias montanus (not *Eudromias montana* Brehm, 1831) HARTING, Ibis, 1870, 202.—COUES, Check List, 1873, Appendix, p. 135; Birds Northwest, 1874, 456.—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 342 (Utah).
Eudromias montana COUES, Am. Nat., viii, 1874, 600 (Montana, breeding).
Endromias montanus COUES, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 634 (Milk River, Frenchmans River, etc., Montana, breeding; habits).

Genus PAGOLLA Mathews.

- Ochthodromus* (not *Ochthodromus* LeConte, 1848) REICHENBACH, Syst. Avium, 1853, p. xviii. (Type, by original designation, *Charadrius wilsonia* Ord.)
Pagolla^a MATHEWS, Birds Australia, iii, pt. 1, April 2, 1913, 83. (Substitute for *Ochthodromus* Reichenbach, preoccupied.)

Medium-sized or rather small Charadriidæ (wing 106–121 mm.) with rather long and very stout bill (exposed culmen as long as or longer than middle toe without claw), tarsus less than one and a half times as long as middle toe without claw (about one-fourth as long as wing), and tail much more than one-third as long as wing, truncate or very slightly rounded or double-rounded.

Bill nearly as long as head, very stout, its depth at base equal to nearly half the length of exposed culmen, the latter as long as or longer than middle toe without claw; culmen with decidedly more than distal half arched; gonys much longer than mandibular rami, faintly convex, ascending terminally, its basal angle not prominent. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of folded wing. Tail much more than one-third as long as wing, truncate or very slightly rounded or double-rounded. Tarsus less than one and a half times as long as middle toe

^a *Pago*, a Lapp name (ex Brisson, Orn., v. 64). (Mathews.)

without claw, about one-fourth as long as wing, slender, the acrotarsium with rather indistinct transverse scutella (some of which, however, are broken into smaller hexagonal scales), the planta tarsi with smaller and much less distinct transverse scutella; outer toe decidedly shorter than middle toe but decidedly longer than inner toe; hallux absent; a small web between basal phalanges of outer and middle toes, but none between inner and middle toes; claws small, nearly straight.

Coloration.—Under parts immaculate white, interrupted by a jugular band of black (adult male) or grayish brown or cinnamon (adult female and young); forehead and superciliary stripe white; loreal stripe and forepart of crown black (adult male) or grayish brown (female and young); rest of upper parts grayish brown, the primaries, etc., darker.

Range.—Atlantic and Gulf coasts of United States and northern South America; West Indies; Pacific coast of Mexico. (Monotypic.)

KEY TO THE SUBSPECIES OF *PAGOLLA WILSONIA*.

a. Black or brown loreal stripe narrower, continued very narrowly beneath eye, not involving anterior portion of forehead or of malar region; white frontal band broader, and white supra-auricular area distinct; color of upper parts lighter; middle toe 18–20 mm.

b. Adult female with pileum, subauricular region and jugular band grayish brown. (Atlantic and Gulf coasts of United States; West Indies.)

Pagolla wilsonia wilsonia ((p. 108).

bb. Adult female with pileum, subauricular region and jugular band cinnamon or sayal brown. (Caribbean coast of Colombia and Venezuela.)

Pagolla wilsonia cinnamomina (p. 113).

aa. Black or brown loreal stripe much broader, continued broadly beneath eye, and involving anterior portion of forehead and malar region; white frontal band narrower, and white supra-auricular area indistinct or obsolete; color of upper parts darker; middle toe 17.5–18 mm. (Pacific coast of Mexico.)

Pagolla wilsonia beldingi (p. 112).

PAGOLLA WILSONIA WILSONIA (Ord).

WILSON'S PLOVER.

Adult male in summer.—Forehead (backward laterally to above eyes), sides of rump, lateral upper tail-coverts, and under parts, including axillars and under wing-coverts white, on the under parts interrupted by a band of black across chest; loreal stripe (from bill to eye) and anterior portion of crown black; rest of upper parts grayish brown, the greater wing-coverts narrowly tipped with white, the auricular and supra-auricular regions and nape sometimes more or less tinged with cinnamon-rufous or rusty; primaries dusky, the outermost with shaft white, the shafts of the others partly white, the proximal ones with a little white on basal portion of outer webs; tail rather light grayish brown becoming darker subterminally and whitish at tip, the general color becoming gradually paler from the middle rectrices to the outer pair, which are wholly white; bill black; iris dark brown; eyelid grayish; legs and feet pale grayish flesh color (in life).

Adult female in summer.—Similar to the male but with jugular band and loreal stripe grayish brown instead of black, the former sometimes tinged or intermixed with ochraceous, cinnamon, or rusty, and crown wholly grayish brown or with but little of black on anterior portion.

Winter plumage (sexes alike?)—Similar to the adult female in summer, but jugular band, loreal stripe, and fore part of crown more grayish brown.

Downy young.—Crown and occiput light grayish buff, distinctly but very irregularly marbled or mottled with black; back and rump similar but more grayish and the mottling coarser and less distinct; arm-wing light buff, mottled with dusky; hand-wing immaculate white; forehead, lores, superciliary region, sides of head, broad nuchal collar and under parts immaculate white; an irregular but distinct postocular streak of black, confluent posteriorly with the black mottling of occiput; a large bare space on side of neck.

Adult male.—Wing, 106–121 (116.4); tail, 44–50 (47.5); culmen, 19.5–21.5 (20.7); tarsus, 27.5–30.5 (29); middle toe, 18–20 (19.2).^a

Adult female.—Wing, 112–121 (117.6); tail, 42–50 (46.9); culmen, 19–22 (20.8); tarsus, 27–31 (28.6); middle toe, 18–20 (18.6).^b

^a Twenty-six specimens.

^b Twenty-four specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from coast of Virginia.....	118.4	48.1	21	29	19.2
Five adult males from coast of South Carolina.....	117.1	47.9	21	28.7	19.5
Three adult males from Florida.....	117	47.2	20.2	28.7	20
Two adult males from Alabama.....	118	49	20.5	29	19
One adult male from Louisiana.....	117	47.2	20.5	28.8	19
Two adult males from coast of Texas.....	114.2	45	19.7	28.7	19.5
One adult male from Bahamas (Andros Island).....	106	45	21	27.5	18
One adult male from Cuba.....	118	45	20	28.5	18
Two adult males from Jamaica (type and co-type of <i>Aegialitis wilsonius</i> var. <i>rufinucha</i> Ridgway).....	114.5	48.7	20	29.5	18
One adult male from Porto Rico (Vieques Island).....	116	48.5	21	29.5	19.5
One adult male from St. Christopher.....	115	45	21	28.5	19
One adult male from Margarita Island, Venezuela (<i>P. w. cinna-</i> <i>momina</i>).....	116	45	20.5	28	19
Two adult males from Lower California (<i>P. w. beldingi</i>).....	115.5	46.7	20	27.7	17.5
FEMALES.					
Five adult females from coast of Virginia.....	117.7	48	20.6	28.6	18.6
Two adult females from coast of North Carolina.....	117.7	46	20.7	28.2	18.7
Three adult females from coast of South Carolina.....	117.7	47.8	21.2	27.7	18.5
Two adult females from Florida.....	118.7	47.2	20.5	29.8	19
Two adult females from Bahamas.....	116	46	20.5	28	18.7
Four adult females from Cuba.....	119.9	46.2	21.2	28.6	18.5
One adult female from Jamaica (type of <i>Aegialitis wilsonius</i> var. <i>rufinucha</i> Ridgway).....	112	46.5	22	29	18
One adult female from Porto Rico (Vieques Island).....	121	50	22	31	19.5
One adult female from St. Thomas.....	115	44	19	27.5	18
One adult female from St. Christopher.....	113	44	20.5	29	18.5
Two adult females from coast of Colombia (<i>P. w. cinna-</i> <i>momina</i>).....	111	45	21.7	28.5	18.5
Two adult females from Lower California (<i>P. w. beldingi</i>).....	116.5	47.2	20.5	27.5	17.7
One adult female from Mazatlan, Sinaloa (<i>P. w. beldingi</i>).....	113.5	47	21	29	18

Atlantic and Gulf coasts of United States, Gulf coast of Mexico and British Honduras, and West Indies; breeding from coast of Virginia (formerly New Jersey) southward to Bahamas (Andros, Inagua, Little Abaco, Concepcion, and Rum Cay) to Jamaica (Spanishtown), and British Honduras (Grassy Cay), probably in other West Indian islands, in which its occurrence is recorded from Cuba (Cabañas; Mariél), Haiti (Samaná, Santo Domingo), Porto Rico, Vieques, St. Thomas, St. Christopher, Anegada, Virgin Gorda, and Guadeloupe; occurring occasionally or accidentally northward to New York (vicinity of New York City; Long Island, several records; Utica, spring of 1868; Oneida Lake, 1880), Connecticut (Garnet, Aug. 22, 1877), Massachusetts (Nahant, August, formerly), and Nova Scotia (Brier Island, April, 28 1880; Halifax). (Possibly occurring, as a winter visitant or resident, along coast of Brazil, though the Brazilian specimens may be referable to *P. w. cinnamomina*.)

Charadrius wilsonia ORD, in Wilson's Am. Orn., ix, 1814, 77, pl. 73, fig. 5 ("Shores of Cape Island"—Cape May, New Jersey; probable type now in coll. Mus. Comp. Zool.; see Faxon, Bull. Mus. Comp. Zool., lix, 1915, 133); ed Wilson's Am. Orn., ix, 1825, 77, pl. 73, fig. 5.

Charadrius wilsonius VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 148, part.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 296.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 21.—AUDUBON, Orn. Biog., iii, 1835, 73, pl. 209; v, 1839, 577; Synopsis, 1839, 223; Birds Am., 8vo ed., v, 1842, 214, pl. 319.—PEABODY, Rep. Orn. Mass., 1839, 359 (abundant at Nahant in August).—LEMBEYE, Aves de la Isla de Cuba, 1850, 106.—WAILLES, Rep. Geol., etc., Miss., 1854, 321 (Mississippi).—PUTNAM, Proc. Essex Inst., i, 1856, 224.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursor), 1865, 30, part.—(?) PELZELN, Orn. Bras., 1870, 297 (Rio Muria, Cujutuba, Feb.).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 450 (Guadeloupe).—BANGS, Bull. Mus. Comp. Zool., ix, 1916, 306 (Cayman Islands, breeding).

[*Charadrius*] *wilsonius* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 100 (crit.); Obs. Nomencl. Wilson's Am. Orn., 1826, [182].—(?) PELZELN, Orn. Bras., 1870, 455.

Aegialites wilsonius BONAPARTE, Geog. and Comp. List, 1833, 45.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas, resident).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 66 (Jamaica).—DRESSER, Ibis, 1866, 34 (Galveston Island, Texas).—COUES, Check List, 1873, no. 585; Bull. Nutt. Orn. Club, vii, 1882, 59 (Garnet, Connecticut, Aug. 22, 1877).—NEEHLING, Bull. Nutt. Orn. Club, vii, 1882, 222 (coast s. e. Texas, breeding).

[*Aegialites*] *wilsonius* ALBRECHT, Journ. für Orn., 1861, 55 (Bahamas).

[*Aegialites*] *wilsonius* COUES, Key N. Am. Birds, 2d ed., 1884, 601.

Aegialitis wilsonius CASSIN, in Baird, Rep. Pacific R. R. Rep., ix, 1858, 693; Proc. Ac. Nat. Sci. Phila., 1860, 378 (St. Thomas, Greater Antilles).—BAIRD, Cat. N. Am. Birds, 1859, no. 506.

[*Aegialitis*] *wilsonius* LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City).

[*Aegialitis*] *wilsonius* COUES, Key N. Am. Birds, 1872, 244.—CORY, List Birds West Ind., revised ed., 1886, 25.

Aegialitis wilsonius COUES, Proc. Essex Inst., v, 1868, 291; Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 28

- (Fort Macon, North Carolina); Check List, 1873, no. 398.—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 452.—BAILEY (H. B.), Bull. Nutt. Orn. Club, i, 1876, 26 (Cobb's Island, Virginia, breeding).—PURDIE, Bull. Nutt. Orn. Club, ii, 1877, 13 (New England records).—CORY, Birds Bahama Is., 1880, 147 (resident); Birds Haiti and San Dom., 1885, 143.
- Egialitis wilsonia* COUES, Birds Northwest, 1874, 456 (synonymy).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 160 (coast near Fort Brown, Tex., resident).—RATHBUN (F. R.), Revised List Birds Centr. N. Y., 1879, 30 (near Utica, 1 spec., spring, 1868).—DUTCHER, Bull. Nutt. Orn. Club, iv, 1879, 242 (Shinnecock Bay, Long Island, May 28, 1879); v, 1880, 186 (Long Island records); Auk, iii, 1886, 438 (Shinnecock Bay, 1 spec., May 16, 1884).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 280.—RALPH and BAGG, Trans. Oneida Hist. Soc., iii, 1886, 115 (Oneida Lake, New York, 1 spec., 1880).—CORY, Auk, iv, 1887, 228 (West Indian localities and references); vii, 1890, 374 (Anegada), 375 (Virgin Gorda); Birds West Ind., 1889, 228; Cat. West Ind. Birds, 1892, 95.—ROBINSON, Auk, vi, 1889, 195 (Nelson Co., Virginia, 1 spec., August, 1887).—NORTHROP, Auk, viii, 1891, 76 (Andros Island, Bahamas).—SCOTT, Auk, ix, 1892, 15 (Jamaica, resident).—STONE, Birds E. Penn. and N. J., 1894, 80 (Cape Island and Seven Mile Beach, New Jersey).—FIELD, Auk, xi, 1894, 123 (Jamaica, breeding).—ELLIOT, N. Am. Shore Birds, 1895, 192, pl. 65.—BEYER, Proc. La. Soc. Nat. for 1897-99 (1900), 97 (coast Louisiana, common resident).—BONNOTE, Ibis, 1903, 300 (Andros and Little Abaco islands, Bahamas; habits).
- [*Egialitis*] *wilsonia* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.
- Egialitis wilsonia* NEWTON (A. and E.), Handb. Jamaica, 1881, 115.—RIDGWAY, Man. N. Am. Birds, 1887, 175.
- Charadrius wilsonii* LESSON, Traité d'Orn., 1831, 544.
- Egialitis wilsoni* ZELEDÓN, Cat. Aves de Costa Rica, 1882, 30.—SALVIN, Ibis, 1889, 379 (Cozumel Island).—RIDGWAY, Auk, viii, 1891, 339 (Concepcion Island, Bahamas).—VERRILL (A. E. and A. H.), Proc. Ac. Nat. Sci. Phila., 1909, 356 (Samana, Santo Domingo).
- Egialitis wilsoniana* SALVIN, Ibis, 1864, 387 (Grassy Cay, Brit. Honduras).
- Egialites wilsonianus* SALVIN, Ibis, 1865, 191 (Guatemala); 1866, 197 (Guatemala).
- Egialitis wilsonii* RIVES, Cat. Birds Virginia, 1890, 58 (coast, summer resident).
- Hiaticula wilsoni* GRAY, List Birds Brit. Mus., Grallæ, 1844, 70.
- [*Ochthodromus*] *wilsonius* REICHENBACH, Av. Syst., 1853, p. xviii.—BONAPARTE, Compt. Rend., xliii, 1856, 418.—GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).
- Ochthodromus wilsonius* CABANIS, Journ. für Orn., 1856, 424 (Cuba).—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 359; Journ. für Orn., 1874, 313 (Porto Rico); 1875, 333 (Cuba; habits); 1878, 162, 189 (Porto Rico); Anal. Soc. Esp. Hist. Nat., vii, 1878, 381 (Porto Rico).—ALLEN, Am. Nat., iii, 1869, 637 (New Jersey; Long Island).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199; Nom. N. Am. Birds, 1881, no. 522.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 168.—GOSS, Auk, ii, 1885, 221 (Brier Island, Nova Scotia, April 28, 1880).—STAHL, Ornith., vol. 3, 1887, 452 (Porto Rico).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 130.
- Ochthodromus wilsonius* ALLEN, Proc. Essex Inst., iv, 1864, 86.
- [*Ochthodromus wilsonius*.] Var. *wilsonius* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 168.
- Ochthodromus wilsonia wilsonia* HELLMAYR, Abh. K. B. Ak. Wiss., ii Kl. xxi, Bd. iii, Abt., 1905, 715 (crit.).

- Ochthodromus wilsoni* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 214, 739, part (Halifax, Nova Scotia; Pennsylvania; Cobbs Island, Virginia; Fort Macon, North Carolina; Tarpon Springs, Florida; Corpus Christi, Texas; Progreso, Holbox Island, and Cozumel Island, Yucatan; Grassy Cay, Brit. Honduras; Anegada, Antilles).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 354, part (Progreso, Cozumel Island, and Holbox Island, Yucatan; Grassy Cay, Brit. Honduras, breeding; Valley of Mexico?; West Indies).
- [*Ochthodromus*] *wilsoni* SHARPE, Hand-list, i, 1899, 153, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 66, part (Fort Macon, North Carolina; Jamaica).
- Charadrius wilsoni* SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xvii, 154, part.
- Ægialitis wilsonius*, var. *rufinucha* RIDGWAY, Am. Nat., viii, no. 2, Feb., 1874, 109 (Spanishtown, Jamaica; coll. U. S. Nat. Mus.).
- Ochthodromus wilsonius rufinuchus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 168, footnote.—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 38 (Porto Rico).
- [*Ochthodromus wilsonius*.] Var. *rufinuchus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 168.
- A[egialitis] wilsonia rufinucha* RIDGWAY, Man. N. Am. Birds, 1887, 175, part (West Indies).
- Eupoda wilsonia rufinucha* WETMORE, Auk, xxxiv, Jan., 1917, 58 (Culebra Island, Feb. 11, 1899).
- (?) *Charadrius crassirostris* SPix, Av. sp. Nov. Brasil., ii, 1825, 77, pl. 94 (Brazil; see Helfmayr, Abh. K. B. Akad. Wiss., ii, Kl. xxii, Bd. iii, Abt., 1905, 715).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 359.
- (?) *Ch[aradrius] crassirostris* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 750.
- Charadrius morinellus* (not of Linnæus) DENNY, Proc. Zool. Soc. Lond., 1847, 39 (Jamaica).

PAGOLLA WILSONIA BELDINGI Ridgway.^a

BELDING'S FLOVER.

Similar to *P. w. wilsonia*, but with black or grayish brown loreal stripe much broader, extending much more broadly beneath eye and involving anterior portions of both forehead and malar region; white frontal band narrower; with little, if any, white above auricular region or posterior portion of eye; general color of upper parts darker, and middle toe averaging shorter.

Adult male.—Wing, 115–116 (115.5); tail, 45–48.5 (46.7); culmen, 19.5–20.5 (20); tarsus, 27.5–28 (27.7); middle toe, 17–18 (17.5).^b

Adult female.—Wing, 113.5–119 (115.5); tail, 45–49.5 (47.2); culmen, 19.5–21.5 (20.7); tarsus, 27–29 (28); middle toe, 17.5–18 (17.8).^c

Pacific coast, from Lower California (La Paz; Carmen; San Jose del Cabo; Pichilique Bay) southward, through Sinaloa (Mazatlán),

^a New subspecies. Type, in coll. U. S. Nat. Mus., no. 86424, adult male, La Paz, Lower California, Dec. 21, 1881; L. Belding.

^b Two specimens.

^c Three specimens.

Tapic (San Blas), Guatemala (Chiapám) * and Costa Rica (Cocos Island) * to Ecuador (Puna Island) * and Peru (Tumbez; * Santa Lucia).^a

Egialitis wilsonius (not *Charadrius wilsonia* Ord) LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 307 (Mazatlan, Sinaloa).

(?) *Egialitis wilsonia* TACZANOWSKI, Orn. du Pérou, iii, 1886, 843.

Egialitis wilsonia BRYANT (W. E.), Proc. Calif. Acad. Sci., 2d ser., ii, 1889, 279 (Cape San Lucas district, Lower California).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 73 (La Paz, Carmen, and San Jose del Cabo, Lower California).

[*Egialitis*] *wilsonia* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.

Egialitis wilsoniana SALVIN, Ibis, 1865, 191 (Pacific coast Guatemala).—(?) TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 330 (Tumbez and Santa Lucia, Peru).

Ochthodromus wilsonius BELDING, Proc. U. S. Nat. Mus., v, 1883, 545.

Ochthodromus wilsoni SHARPE, Cat. Birds Brit. Mus., xxiv, 214, 739, part (San Blas, Tapic; Chiapam, Guatemala?; Puna Island, w. Ecuador?).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 354, part (Mazatlan, Sinaloa; San Blas, Tapic; Chiapam, Guatemala; "South America to Peru"?).—GIFFORD, Proc. Calif. Acad. Sci., 4th ser., ii, pt. i, 1913, 53, in text (Cocos Island, Costa Rica, Sept. 4 and 11, 1905).

[*Ochthodromus*] *wilsoni* SHARPE, Hand-list, i, 1899, 153, part.—(?) FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 66, part ("South Mexico").

PAGOLLA WILSONIA CINNAMOMINA Ridgway.^b

CINNAMOMEUS PLOVER.

Similar to *P. w. wilsonia*, but pileum and sides of head (suborbital and auricular regions) and jugular band (in adult female) sayal brown or dull cinnamon, instead of grayish brown.

Caribbean coast of Colombia (Sabanilla) and Margarita Island, Venezuela; probably also islands of Aruba and Bonaire, Dutch West Indies, coast of Venezuela (Carupano; Cumaná), island of Trinidad, coast of British Guiana and Cayenne (Oyapok River) and north-eastern Brazil (Piehy, Sept.).^c

(?) *Charadrius crassirostris* (not of Spix, 1825?) CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 750.

(?) *Charadrius wilsonius* (not *C. wilsonia* Ord, 1814?) SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursore), 1865, 30, part ("South America").

Egialites wilsonius SOLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 169 (Carupano, Venezuela).

Egialitis wilsonia (?) SALVIN, Ibis, 1886, 178 (Brit. Guiana).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 75 (Trinidad).

[*Egialitis*] *wilsonia* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.

(?) *Ochthodromus wilsonia* BERLEPSCH, Novit. Zool., xv, 1908, 305 (Cayenne).

^a Specimens from these localities not seen by me, but almost certainly are referable to this form.

^b New subspecies. Type, in coll. U. S. Nat. Mus., no. 97919, adult female, Sabanilla, Colombia, March, 1884; Benedict and Nye.

^c Specimens from these localities not seen by me.

- (?) *Eudromias wilsoni* REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, LXXVI, 1910, 94 (coast of Pichy, n. e. Brazil, Sept. 14).
Ochthodromus wilsoni SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 214, 739, part (Carupano and Cumana, Venezuela; Oyapoc River, Cayenne?).
[Ochthodromus] wilsoni SHARPE, Hand-list, i, 1899, 153, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 66, part (Cumana, Venezuela).
Ochthodromus wilsonius rufinuchus (not *Aegialitis wilsonius* var. *rufinucha* Ridgway, 1874) RIDGWAY, Proc. U. S. Nat. Mus., vii, July 29, 1884, 177 (Sabanilla, Colombia, March).—LOWE, Ibis, 1907, 552 (Margarita Island, Venezuela).—CORY, Pub. 137, Field Mus. N. H., 1909, 197 (Aruba, Dutch West Indies), 214 (Isla des Aves), 238 (Margarita Island).
Ochthodromus wilsonia rufinucha HELLMAYER, Novit. Zool., xiii, 1906, 53 (Seelet, Trinidad; crit.).
A[egialitis] wilsonia rufinucha RIDGWAY, Man. N. Am. Birds, 1887, 175, part.
Aegialitis wilsonia rufinucha ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 656 (Margarita Island).
Aegialitis wilsonius rufinucha HARTEET, Novit. Zool., ix, 1902, 307 (Aruba and Bonaire, Dutch West Indies).
Aegialitis rufinucha HARTEET, Ibis, 1893, 307 (Aruba; Bonaire; crit.), 335 (Bonaire).

Genus CHARADRIUS Linnæus.

- Charadrius* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 150. (Type, by tautonymy, *Charadrius hiaticula* Linnæus.)
Aegialitis BOIE, Isis, 1822, 558. (Type, as designated by Gray, 1855, *Charadrius hiaticula* Linnæus.)
Aegialites (emendation) BOIE, Isis, 1826, 978.
Aegialeus REICHENBACH, Syst. Avium, 1853, p. xviii. (Type, by monotypy, *Charadrius semipalmatus* Bonaparte.)
Leucopolius BONAPARTE, Compt. Rend., xliii, 1856, 417. (Type, by tautonymy, *Charadrius leucopolius* Wagler=*C. marginatus* Vieillot.)
Cirripidesmus BONAPARTE, Compt. Rend., xliii, 1856, 417. (Type, by tautonymy, *Charadrius cirripidesmos* Wagler=*C. mongolus* Pallas.)
Hiaticula GRAY, List Gen. Birds, 1840, 85. (Type, by tautonymy, *Charadrius hiaticula* Linnæus.)
Aegialophilus GOULD, Handb. Birds of Australia, ii, 1865, 234. (Type, by original designation, *Charadrius cantianus* Latham.)

Small to very small Charadriidæ (wing 90–153 mm.) with tail much less than half as long as wing, tarsus not more (usually much less) than twice as long as middle toe without claw, and culmen less than one-sixth as long as wing and less than two-thirds as long as tarsus, the bill slender or small.

Bill relatively small, slender, or else very short; exposed culmen very slightly if at all longer than middle toe without claw, usually equal to same or shorter, the greatest depth of bill equal to less than one-fourth to more than one-third the length of culmen; arched terminal portion of culmen usually shorter than depressed basal portion, rarely longer; gonys as long as, longer than, or shorter than mandibular rami. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by about one-half length of wing. Tail not more (usually less) than half as long as wing, truncate to distinctly rounded, the middle pair of rectrices usually projecting slightly beyond next pair. Tarsus one and a half times to twice as

long as middle toe without claw, less than one-fifth to more than one-fourth as long as wing, slender, covered with small hexagonal scales, these larger in front where usually more or less transverse on lower portion; outer toe decidedly shorter than middle toe, the inner toe still shorter; hallux absent; a distinct web between basal phalanges of outer and middle toes, the space between inner and middle toes with web usually minute or scarcely visible, rarely distinct.

Coloration.—Upper parts grayish brown, including rump and upper tail-coverts; under parts white, usually with a jugular or pectoral band of black, grayish brown, or cinnamon-rufous, this sometimes reduced to a patch on each side, or altogether absent.

Range.—Nearly cosmopolitan, but absent from Polynesia. (Many species.)

KEY TO THE AMERICAN SPECIES OF CHARADRIUS.^a

- a. A distinct web between basal phalanges of inner and middle toes; web between outer and middle toes larger. (Northern North America, south in winter to southern South America.).....*Charadrius semipalmatus* (p. 116.)
- aa. No distinct (if any) web between inner and middle toes; web between outer and middle toes smaller.
 - b. Culmen decidedly shorter than middle toe with claw.
 - c. A more or less distinct nuchal collar of white (often with a black one immediately below it); a black or grayish brown jugular band, or patch of same on each side of chest.
 - d. Lores with a black or grayish brown stripe, extending from bill to and beneath eyes to auricular region; upper parts darker grayish brown.
 - e. Bill stouter, its basal half light-colored (yellow or orange-yellow in life); no white on crown. (Northern Europe, northwestern Asia, and extreme northeastern North America.).....*Charadrius hiaticula* (p. 120.)
 - ee. Bill more slender, wholly black or with only extreme base of mandible yellow; a white bar immediately behind black patch on fore part of crown. (Europe and Asia, south in winter to northwestern Africa, India, New Guinea, etc.; accidental in California?)
 - Charadrius dubius* (p. 124).
 - dd. Lores wholly white; upper parts much paler grayish brown or brownish gray. (Eastern North America, south in winter to northern Mexico, Greater Antilles, and Bermudas.).....*Charadrius melodus* (p. 128).
 - cc. No trace of white (nor black) nuchal collar; chest cinnamon-rufous in summer adults, never with a black band. (Northeastern Asia, south in winter to Philippines, Moluccas, and Australia; accidental in Alaska.)
 - Charadrius mongolus* (p. 132).

^a *Aegialitis albidipectus* Ridgway, Proc. U. S. Nat. Mus., v, March 21, 1883, 526 (*Aegialitis albidipectus* Ridgway, in Baird, Brewer and Ridgway, Water Birds N. Am., i, 1884, 153), based on a specimen supposed to be from Chile, in the collection of the U. S. National Museum, proves to be a South African species with wrong locality on the label: *Charadrius marginatus* Vieillot, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 138; *Aegialitis marginata* Gurney, Ibis, 1860, 218; Sharpe, Cat. Birds Brit. Mus., xxvi, 1896, 282; *Charadrius leucopolius* Wagler, Syst. Av., 1827, Charadrius, sp. 28; *Charadrius nivifrons*, Leeson, Traité d'Orn., 1831, 544 (ex Cuvier, Règne Anim., 1829, 501, = *nomen nudum*).

Aegialitis occidentalis Cabanis, Journ. für Orn., 1872, 158; Sharpe, Cat. Birds Brit. Mus., xxvi, 1896, 295, from Province of Tarapacá, Chile, I have not seen.

bb. Culmen as long as or longer than middle toe *without* claw.

c. A white nuchal collar; no black loral stripe nor jugular band; general color of upper parts much paler grayish brown or brownish gray. (*Charadrius nivosus*.)

d. Color of upper parts darker (light hair brown to nearly drab). (Western America, from Oregon and Wyoming to Chile.)

Charadrius nivosus nivosus (p. 136).

dd. Color of upper parts much paler (pale drab-gray to nearly grayish white.) (Gulf coast of United States and Mexico; Cuba.)

Charadrius nivosus tenuirostris (p. 139).

cc. No white nuchal collar; a black loral stripe and jugular band; general color of upper parts much darker grayish brown. (Southern Mexico to Peru, Argentina, Paraguay, etc.) *Charadrius collaris* (p. 140).

CHARADRIUS SEMIPALMATUS Bonaparte.

SEMIPALMATED PLOVER.

Adult male in summer.—Anterior portion of forehead, loral stripe (from bill to eye and continued beneath the latter to and including the auricular region), fore part of crown, and a broad collar round lower neck (broader on sides of chest), black; forehead (except anterior portion), malar region, chin, throat, upper neck (all round), a small spot immediately beneath eye, a more or less distinct supra-auricular streak, and under parts posterior to the black jugular band, including axillars and under wing-coverts, immaculate white, the coverts along edge of wing grayish brown basally, the under primary coverts pale grayish brown; upper parts (except as described) plain grayish brown (hair brown), the greater wing-coverts tipped with white; primaries dusky or blackish, their shafts white, the proximal quills with basal portion of outer web white; tail light grayish brown, blackish subterminally and white terminally, the outermost rectrix entirely or mostly white, the next with outer web white; bill black, the basal portion orange or orange-yellow; iris dark brown; legs and feet pale yellowish or flesh color (in life).

Adult female in summer.—Similar to the male and not always distinguishable, but usually with the black markings on head and the jugular band duller black, the latter mixed or suffused with grayish brown laterally.

Winter plumage.—Black of head-markings and jugular band replaced by grayish brown; otherwise as in summer.

Young.—Similar to the winter plumage, but feathers of upper parts margined terminally with light buff.

Downy young.—Upper parts pale grayish brown mottled with black, interrupted by a white nuchal collar; forehead, superciliary region, and suborbital spot pale grayish buffy, the first marked along median line with black; under parts entirely white.

Adult male.—Wing, 114–122.5 (119.4); tail, 52–57.5 (54.8); culmen, 11.5–13 (12.5); tarsus, 21–24 (22.3); middle toe, 16.5–18 (17.4).^a

Adult female.—Wing, 115–127 (119.8); tail, 52.5–61 (55.7); culmen, 10.5–13.5 (11.9); tarsus, 21–23 (21.9); middle toe, 16.5–18 (17).^b

Breeding in Arctic North America (from Melville Island, Wellington Channel, Cumberland Sound, and Davis Inlet to upper Yukon valley) south to southern Mackenzie, southern Keewatin, coast of Labrador, and islands in Gulf of St. Lawrence (Magdalen and Mingan islands); winters from southern Lower California, Louisiana, South Carolina, etc., throughout West Indies and tropical America south to southern Brazil (coast of São Paulo), Argentina (Moreno; Punta de Jujú), Bolivia (San Luis), Chile (Coquimbo Lagoon; Punta Teatina; Cabulco) and Galápagos Archipelago (Abingdon, Albe-Marle, Bindloe, Charles, Chatham, Indefatigable, James, and Jarvis islands); Bermudas during migration; occasional in northeastern Siberia (Plover Bay; Koliuchin Bay; Herald Island) and casual in Greenland.

[*Charadrius*] *hiaticula* (not of Linnæus) LATHAM, Index Orn., ii, 1790, 743, part. *Charadrius hiaticula* WILSON, Am. Orn., v, 1812, 30, pl. 37, fig. 3.—ORD, ed. Wilson's Am. Orn., vii, 1824, 69.—DOLB, Proc. Bost. Soc. N. H., xii, 1869, 304 (Hawaiian Islands).

Tringa hiaticula WILSON, Am. Orn., vii, 1813, 65, pl. 59, fig. 3.

Charadrius semipalmatus BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, pt. i, 1825, 98 (based on *Tringa hiaticula* Wilson, Am. Orn., vii, 65); Obs. Nomencl. Wilson's Am. Orn., [180]; Ann. Lyc. N. Y., ii, 1827, 296; Am. Orn., iv, 1832, 92, pl. 25.—KAUF, Isis, 1825, 1376.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 367.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 24.—AUDUBON, Orn. Biog., iv, 1838, 256, pl. 330; v, 1839, 579; Synopsis, 1839, 224; Birds Am., 8vo ed., v, 1842, 218, pl. 320.—PEABODY, Rep. Orn. Mass., 1839, 361.—DENNY, Proc. Zool. Soc. Lond., 1847, 39 (Jamaica).—LEMBEYE, Aves de la Isla de Cuba, 1850, 107.—WAILES, Rep. Geol., etc., Miss., 1854, 321.—PUTNAM, Proc. Essex Inst., i, 1856, 216 (Massachusetts).—BRYANT, Proc. Bost. Soc. N. H., vi, 1857, 119 (Nova Scotia).—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 237 (Keweenaw Point, Michigan).—WILLIS, Ann. Rep. Smithson. Inst. for 1858 (1859), 284 (Nova Scotia).—BLAND, Ann. Rep. Smithson. Inst. for 1858 (1859), 238 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—SCHLEGEL, Mus. Pays-

^a Eleven specimens.^b Seven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from eastern North America.....	121.2	55.7	12.7	22.7	17.4
Five adult males from Alaska.....	117.1	53.6	12.4	21.8	17.3
FEMALES.					
Five adult females from eastern North America.....	120.3	56.5	12.5	22.5	17
Two adult females from Alaska.....	118.5	53.7	11.2	21.2	17

- Bas, iv, no. 29 (Cursors), 1865 30 (Labrador; Brazil, one of the types of *C. brevirostris* Maximilian).—WEIZ, Proc. Bost. Soc. N. H., x, 1866, 267 (Labrador).—FRANTZIUS, Journ. für Orn., 1869, 378 (Costa Rica).—FINSCH, Proc. Zool. Soc. Lond., 1870, 589 (Trinidad; crit.).—SEEBORN, Geog. Distr. Charadriidæ, 1887, pp. xvi, 123.
- Char[adrius] semipalmatus* MARTENS, Journ. für Orn., 1859, 217 (Bermudas). [*Charadrius*] *semipalmatus* GRAY, Hand-list, iii, 1871, 16.
- Aegialitis semipalmatus* BONAPARTE, Geog. and Comp. List, 1838, 45.—GOSSE, Birds Jamaica, 1847, 333.—JARDINE, Contr. Orn., 1849, 83 (Bermudas).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas).—MARCH, Proc. Ac. Nat. Sci. Phila., 1864, 66 (Jamaica).—SALVIN, Ibis, 1865, 191 (Guatemala); 1866, 197 (Guatemala).—DRESSER, Ibis, 1866, 34 (Texas).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 591 (Mexican Island).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 517.—COUES, Check List, 2nd ed., 1882, no. 586.—NELSON, Cruise 'Corwin' in 1881 (1883), 84 (both sides Bering Sea; Alaska Peninsula to Point Barrow; Wrangell Island; Herald Island).—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 384 (Magdalen and Mingan islands, breeding).
- Aegialitis semipalmatus* HURDIS, Jardine's Contr. Orn., 1850, 9 (Bermudas, Aug., Sept.).—COUES, Key N. Am. Birds, 2nd ed., 1884, 602.
- Aegialitis semipalmata* WELLS, List Birds Grenada, 1886, 7.
- Aeg[ialitis] semipalmatus* ALBRECHT, Journ. für Orn., 1861, 55 (Bahamas).
- Aegialitis semipalmatus* HARTLAUB, Journ. für Orn., 1883, 278 (Portage Bay, Alaska).
- Aegialitis semipalmatus* CABANIS, Journ. für Orn., 1856, 425 (Cuba).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 694.—BAIRD, Cat. N. Am. Birds, 1859, no. 507.—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 228 (coast Labrador, breeding; habits); 1866, 96 (Fort Whipple, Arizona); 1871, 28 (Fort Macon, North Carolina); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina).—GUNDLACH, Journ. für Orn., 1862, 88 (Cuba; crit.).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 100 (Sombbrero); viii, 1866, 294 (vicinity New York City); ix, 1869, 238 (Puna Island, w. Ecuador).—TURNBULL, Birds E. Penn. and N. J., 1869, 38 (Phila. ed., 29).—BERLEPSCH, Novit. Zool., xv, 1908, 305 (Cayenne).
- Aegialitis semipalmatus* VERRILL, Proc. Essex Inst., iii, 1862, 157 (Oxford Co., Maine).—MCLILWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—COUES, Proc. Essex Inst., v, 1868, 291 (New England); Check List, 1873, no. 399.—GRAYSON, Proc. Bost. Soc. N. H., xiv, 1872, 235 (Tres Marias Islands).—ALLEN, Am. Nat., vi, 1872, 359 (Kansas).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 445 (New England, migrant).—CORY, Birds Bahama Island, 1880, 148; Birds Haiti and San Dom., 1885, 144.—TRISTRAM, Ibis, 1884, 168 (Santo Domingo).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 230 (Bermudas, frequent).
- [*Aegialitis*] *semipalmatus* COUES, Key N. Am. Birds, 1872, 244.—CORY, List Birds West Ind., revised ed., 1886, 25.
- [*Aegialitis*] *semipalmata* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143.
- Aegialitis semipalmata* BLAKISTON, Ibis, 1863, 130 (int. Brit. America).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323 (Galapagos Islands).—COUES, Birds Northwest, 1874, 453.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 560 (Chorillos, centr. Peru); Orn. du Pérou, iii, 1886, 345.—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 501 (Indefatigable Island, Galapagos); Proc. Zool. Soc. Lond., 1883, 428 (Paracas Bay, Peru; Coquimbo Lagoon, Chile); Ibis, 1886, 178 (Brit. Guiana).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent), 241 (Barbuda), 461 (Guadeloupe); Bull. U. S. Nat. Mus.,

- no. 4, 1876, 46 (San Mateo, Oaxaca, Aug., Feb.).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 169 (Santa Lucia).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am. Birds, no. 517); Proc. U. S. Nat. Mus., xix, 1896, 628 (Albemarle and Indefatigable islands, Galapagos).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 154.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 246 (Davis Inlet, breeding); Contr. N. H. Alaska, 1886, 150 (St. Michaels, 1 spec., Oct. 1; Fort Yukon, abundant).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 274; 3rd ed., 1910, p. 128.—NELSON, Rep. N. H. Coll. Alaska, 1887, 126 (Nulato, St. Michaels, etc.; Plover Bay and Koliuchin Bay, e. Siberia).—CORY, Auk, iii, 1886, 502 (Grand Cayman); iv, 1887, 229 (West Indian localities and references); vi, 1889, 32 (Cayman Brac, near Cuba); vii, 1890, 374 (Anegada, Lesser Antilles); Birds West Ind., 1889, 229; Cat. West Ind. Birds, 1892, 95.—BISHOP, Auk, vi, 1889, 147 (Magdalen Islands, breeding).—FELDEN, Ibis, 1889, 491 (Barbados).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 271 (as to *Charadrius brevirostris* Maximilian).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1893, 395 (Ancon, Peru, Jan. 29).—CHERRIE, Expl. Zool. C. R. Merid., 1893, 55 (Boca del Diquis, s. w. Costa Rica).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 75 (Trinidad).—ELLIOT, N. Am. Shore Birds, 1895, 179, pl. 58.—BONHOTE, Ibis, 1903, 300 (Andros and Green Cay islands, Bahamas).—LÖNNBERG, Ibis, 1903, 446 (Moreno, Argentina), 453 (San Luis, Bolivia, Feb.).—BECK, Condor, ix, 1907, 110, in text (Cocos Island, Jan.).—LOWE, Ibis, 1907, 553 (Margarita Island, Venezuela, Jan.).—VERBIL (A. E. and A. H.), Proc. Ac. Nat. Sci. Phila., 1909, 356 (Samana, Santo Domingo).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 417 (Pacific coast Costa Rica).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 38 (Porto Rico, rare visitant).
- [Aegialitis] semipalmata* NEWTON (A. and E.), Handb. Jamaica, 1881, 115.—RIDGWAY, Man. N. Am. Birds, 1887, 176.
- Aegialitis semipalmata* KOENIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. Brazil).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 186 (Chatham, Albemarle, Jervis, and Indefatigable islands, Galapagos); ix, 1902, 418 (Galapagos in migration).
- Aegialitis semipalmata* ROTHSCCHILD and HARTERT, Novit. Zool., vi, 1899, 203 (Galapagos).
- [Aegialitis] hiatacula* . . . var. *semipalmata* RIDGWAY, Ann. Lyc. N. H. N. Y., x, 1874, 383 (Illinois).
- Aegialitis hiaticula* . . . var. *semipalmatus* RIDGWAY, Am. Nat., viii, Feb., 1874, 109 (crit.).
- Aegialitis hiaticula semipalmata* HANTZSCH, Journ. für Orn., July, 1908, 362 (n. e. Labrador).
- [Aegialeus] semipalmatus* REICHENBACH, Av. Syst. Nat., 1852, p. xviii.—GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 336 (Labrador; Brazil).
- [Aegialeus] semipalmatus* BONAPARTE, Compt. Rend., xliii, 1856, 417.—SHARPE, Hand-list, i, 1899, 154.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 66 (Barbados; Coquimbo, Chile; etc.).
- Aegialeus semipalmatus* ALLEN, Proc. Essex Inst., iv, 1864, 77 (Massachusetts).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 250, 743.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 357 (Mazatlan, Sinaloa; Tres Marias Islands, Tepic; San Mateo and Santa Maria del Mar, Oaxaca; Cozumel Island, Yucatan; Chiapam, Guatemala; Bahía de Salinas, Costa Rica).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, 1913, 53 (Abingdon, Albemarle, Bindloe, Charles, Chatham, Indefatigable, James, Jervis, and Narborough islands, Galapagos; Cocos Island).

- Aegialeus semipalmatus* GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 359; Journ. für Orn., 1874, 314 (Porto Rico); 1875, 335 (Cuba); 1878, 162, 189 (Porto Rico); Anal. Soc. Esp. Hist. Nat., vii, 1878, 384 (Porto Rico).—SCHALOW, Zool. Jahrb., Supp., iv, Heft 3, 1898, 665 (Punta Teatina and Cabulco, Chile).—IHERING, Revista Mus. Paulista, iii, 1899, 430 (coast São Paulo, s. Brazil).—DABBENE, Orn. Argent., 1910, 217 (Moreno; Puna de Jujuy).
- Hiaticula semipalmata* GOULD, in Darwin, Zool. Voy. 'Beagle,' Birds, 1841, 128 (Galapagos Islands).—GRAY, List Birds Brit. Mus., iii, 1844, 70 (Rio de Janeiro).—HARTLAUB, Journ. für Orn., 1854, 170 (Galapagos).
- H[hiaticula] semipalmata* GRAY, Gen. Birds, iii, 1847, 544.
- Ch[aradrius] brevirostris* MAXIMILIAN, Beitr. Naturg. Bras., iv, pt. ii, 1833, 769 (Brazil; type lost).^a—TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 310 (Peru); Fauna Peruana, Aves, 1845-46, 49, 296.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 750.
- Charadrius brevirostris* BURMEISTER, Syst. Ueb. Th. Bras., iii, i, 1856, 359.

CHARADRIUS HIATICULA Linnaeus.

RING PLOVER.

Similar to *C. semipalmatus*, but without any distinct web between basal portion of inner and middle toes black or grayish brown; pectoral band broader, and size averaging larger.

Adults in summer (sexes alike).—Anterior portion of forehead, lores, suborbital, and auricular regions and fore part of crown black, all these areas confluent; forehead, postocular or supra-auricular area, malar region, chin, throat, upper neck (all round), lateral upper tail-coverts, and under parts, including axillars and under wing-coverts, immaculate white, this interrupted below by a broad collar of black round lower neck, broader in front, involving sides of chest and sometimes invading lower throat; general color of upper parts (except as described) deep grayish brown (between hair brown and drab), the greater wing-coverts tipped with white; primaries dusky, with shafts partially white, the proximal quills with more or less white on outer webs; proximal secondaries white, or mostly so; tail grayish brown, blackish subterminally and tipped with white, the outermost rectrix wholly white; bill black for distal half (approximately the basal half orange or orange-red (in life); iris dark brown; legs and feet orange (in life).

Young.—Black of head-markings and jugular band replaced by grayish brown and feathers of upper parts margined with pale buffy; otherwise like adults.

Downy young.—Forehead, superciliary region, malar region, chin and throat dull white or grayish white; nuchal collar and under parts of body immaculate white; crown and occiput mottled with pale-grayish buffy and black, the occiput narrowly bordered posteriorly and laterally with black; back, wings, rump, etc., irregularly barred or transversely mottled with pale grayish buffy and black.

^a See Allen, Bull. Am. Mus. N. H., ii, 1889, 271. One of the types, however, is said to be in the collection of the Leyden Museum; see Schlegel, Mus. Pays-Bas, iv, no. 29, 1865, 30.

Adult male.—Wing, 122.5–138 (127.8); tail, 56.5–67 (59.8); culmen, 12–15 (13.7); tarsus, 23–27 (24.7); middle toe, 16–18 (16.8).^a

Adult female.—Wing, 129–132 (130.5); tail, 61–63 (62); culmen, 14–16 (15); tarsus, 24.5; middle toe, 16–17 (16.5).^b

Breeding from head of Cumberland Gulf (western shore), Smith Sound (Buchanan Strait, lat. 74° 48' N.), Greenland (Disko Island; Port Kennedy; Lichtenfels; Prince Regent's Inlet; Hecla Cove), Iceland, British Islands (including Faroes and Shetlands), Norway, etc., to Turkestan and eastern Siberia (Nijni Kolymsk; Gichiga; Marcova), northward to Spitzbergen and Seven Islands (lat. 81½° N.); winters on shores of Mediterranean Sea and throughout Africa, including Madeira and Canary Islands; occasional in northwestern India and accidental in Barbados (Chancery Lane, Sept. 10), Chile, and southern Alaska (Sitka).

[*Charadrius*] *hiaticula* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 150 (Sweden); ed. 12, i, 1766, 253, part.—GMELIN, Syst. Nat., i, pt. ii, 1789, 683, part.—LATHAM, Index Orn., ii, 1790, 743, part.—TURTON, Syst. Nat., i, 1806, 411.—REINHARDT (J.), Journ. für Orn., 1854, 440 (Greenland).—GRAY, Hand-list, iii, 1871, 15, no. 9998.

Charadrius hiaticula VIEILLOR, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 139.—ROUX, Orn. Prov., 1825, pl. 275.—WERNER, Atlas, Coureurs, 1827, pl. 7.—FOX, Newc. Mus., 1827, 90.—LESSON, Traité d'Orn., 1831, 544.—NAUMANN, Vög. Deutschl., vii, 1833, 291, pl. 175.—GOULD, Birds Europe, iv, 1837, pl. 296 and text.—HAY, Proc. Zool. Soc. Lond., 1840, 135 (Tangiers, Morocco).—MACGILLIVRAY, Man. Brit. Orn., ii, 1840, 52; Brit. Birds, iv, 1850, 116.—SELYS-LONGCHAMPS, Faune Belge, 1842, 120.—YARRELL, Brit. Birds, ii, 1843, 401.—FRAZER, Proc. Zool. Soc. Lond., 1844, 67 (Tripoli).—SCHLEGEL, Rev. Crit., 1844, 83; Vog. Nederl., 1854, pl. 213; Dier. Nederl. Vogels, 1861, pl. 21, figs. 5, 6; Mus. Pays-Bas, iv, no. 29 (Cursoree), 1865, 26.—HEWITSON, Eggs Brit. Birds, ii, 1846, 255, pl. 69, figs. 1, 2.—THIENEMANN, Abbild. Vögeleieren, 1845–56, pl. 59.—HOLM, Naturhist. Tidskr., 2nd ser., ii, 1848, 483 (Faroe Islands).—THOMPSON, Birds Ireland, ii, 1850, 96.—WOLLEY, Jardine's Contr. Orn., 1850, 108 (Faroe Islands, breeding).—STRICKLAND, Proc. Zool.

a Fifteen specimens.

b Two specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Russia.....	124	59	12	23	17.5
One adult male from Norway.....	130.5	62.5	14.5	24	16.5
Four adult males from England.....	131.7	63.6	14	25.6	17.2
One adult male from France.....	125.5	58	14	27	17
One adult male from Spain.....	126.5	58	14.5	24	16.5
One adult male from Italy.....	122.5	57	14	24	16.5
Two adult males from eastern Siberia.....	127	59	13.5	25.2	17
Two adult males from head of Cumberland Gulf.....	124.5	56.7	13.2	23	16.5
Two adult (males) from Greenland.....	127.7	58.5	13.2	25	16.2
FEMALES.					
One adult female from England.....	132	63	16	24.5	16
One adult female from France.....	129	61	14	24.5	17

- Soc. Lond., 1850, 221 (Kordofan).—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—MIDDENDORFF, Reis. Sibir., Zool., 1851, 213 (Taimyr River, lat. 74° N.; Boganida River).—KJÆRØLLING, Danm. Fugle, 1852, pl. 30, fig. 2.—LILLEBORG, Naumannia, 1852, 107 (n. Russia).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland), 306 (Lapland).—SCHILLING, Journ. für Orn., 1853, 373 (Rügen).—MÜLLER, Journ. für Orn., 1856, 228 (Provence).—SUNDEVALL, Svensk. Fogl., 1856-72, pl. 37, fig. 2; Oefv. K. Vet.-Ak. Förh. Stockholm, 1874, 21 (Seven Islands, lat. 81½ N.).—WALKER, Ibis, 1860, 167 (Port Kennedy, Greenland, June).—REINHARDT, Ibis, 1861, 9 (Greenland).—GODMAN, Ibis, 1861, 86 (Norway).—WRIGHT, Ibis, 1862, 141 (Malta).—HOMYER, Journ. für Orn., 1862, 422 (Balearic Islands); 1863, 21 (Balearics); 1870, 421 (e. Siberia).—GRAY, List Brit. Birds, 1863, 140.—MALMGREN, Journ. für Orn., 1863, 372 (Spitzbergen); Oefv. K. Vet. Akad. Förh. Stockholm, 1863, 100 (Spitzbergen).—HARTLAUB, Proc. Zool. Soc. Lond., 1867, 827 (Zanzibar); Abh. nat. Ver. Bremen., xii, 1891, 43 (Bagamojo; Tunguru).—LAYARD, Birds South Africa, 1867, 298.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 137.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 266.—BROWN, Proc. Bost. Soc. N. H., 1869, 207 (Madeira).—STEVENSON, Birds Norfolk, 1870, 84.—FRITSCH, Vög. Eur., 1870, pl. 33, fig. 1; Journ. für Orn., 1871, 384 (Bohemia).—FINSCH and HARTLAUB, Vög. Ostafrika, 1870, 657.—GRAY (R.), Birds West Scotl., 1871, 258.—HEUGLIN; Orn. N. O.-Afrika, ii, Abth. i, 1873, 1026 (Nile Valley; Tana Lake; Abyssinia; Qualebet; Sarago; shore of Red Sea, breeding).—HANCOCK, Birds Northumb. and Durham, 1874, 99.—REICHENOW, Journ. für Orn., 1877, 11 (Loango coast); 1887, 47 (Kagehi); 1892, 7 (Bukoba); Deutsch. Tief see-Exp., 7 Bd., 5 Lief., 1904, 352.—FISCHER and REICHENOW, Journ. für Orn., 1878, 248 (Zanzibar; Formosa Bay).—BUTTIKOFER, Notes Leyden Mus., vii, 1882, 327 (Liberia); xi, 1889, 136 (Liberia).—SEEBORN, Ibis, 1882, 380 (Archangel, Russia); 1888, 347 (Great Liakoff Island, Siberia; descr. downy young); 1892, 23 (Helgoland, spring and autumn); Geog. Distr. Charadriidæ, 1887, pp. xvi, 125, figs.—MATSCHE, Journ. für Orn., 1887, 138 (Karema, March).—SCHALOW, Journ. für Orn., 1891, 259 (Sitka, Alaska; crit.).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 24 (Nijni Kolymak, etc., e. Siberia).
- [*Charadrius*] *hiaticula* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, pt. i, 1825, 99; Obs. Nomencl. Wilson's Am. Orn., 1826, [181].—HÜLBOLL, Naturhist. Tidsskr., iv, 1848, 406 (Greenland).—GRAY, Gen. Birds, iii, 1847, 544.
- Char* [*adrius*] *hiaticula* DROSTE, Journ. für Orn., 1869, 341 (Faroe Islands).
- Charadrius hiaticula hiaticula* BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, Sept., 1915, 378 (Providence Bay, East Cape, and Cape Serdze, n. e. Siberia, June, July).
- [*Aegialitis*] *hiaticula* BOIE, Isis, 1822, 558.
- Aegialitis hiaticula* HOLTZ, Journ. für Orn., 1865, 176 (Neu-Vorp.); 1866, 37 (Gottland); 1868, 160 (Gotaka Sando).—HEUGLIN, Journ. für Orn., 1872, 118 (Novaya Zemlya; Waigats).—ALSTON and HARVIE-BROWN, Ibis, 1873, 67 (Archangel).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands); x, 1903, 296 (Rio de Oro, w. Africa).—HARTERT and GRANT, Novit. Zool., xii, 1905 103 (San Miguel, Azores).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 249 (Barbados).
- [*Aegialitis*] *hiaticula* CORY, Cat. West Ind. Birds, 1892, 138 (Barbados).
- Aegialitis hiaticula* DRAKE, Ibis, 1867, 429 (n. Africa).—GILLETT, Ibis, 1870, 306 (Matthews Strait, Novaya Zemlya).—ELWES and BUCKLEY, Ibis, 1870, 330 (Turkey).—SAUNDERS, Ibis, 1871, 386 (s. Spain); 1884, 389 (Pyrennes); ed. Yarrell's Brit. Birds, iii, 1883, 257; Man. Brit. Birds, 1889, 523.—HEUGLIN, Ibis, 1872, 62 (Novaya Zemlya; Waigats).—HARTING, Handb. Brit. Birds, 1872, 44.—BROOKE, Ibis, 1873, 337 (Sardinia).—DURNFORD, Ibis, 1874, 398

- (North Frisian Islands).—SHELLEY, Ibis, 1875, 85 (Durban, Natal); 1888, 305 (Manda Island).—NEWTON, Handb. N. H. Greenland, 1875, 101.—SEEBOHM and HARVEY-BROWN, Ibis, 1876, 289 (lower Petchora River, Russia).—DRESSER, Birds Europe, vii, 1876, 467, pl. 525.—FELDEN, Ibis, 1877, 406 (Buchanan Straits, Smith Sound, lat. 78° 48' N.; habits); 1889, 491 (Barbados; crit.).—SEEBOHM, Ibis, 1879, 155 (Siberia); 1882, 221 (Astrakhan).—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 91 (Buchanan Straits); Bull. Am. Mus. N. H., xxi, 1905, 241 (Gichiga and Marcova, n. e. Siberia).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 198 (Cat. N. Am. Birds, no. 518).—SCULLY, Ibis, 1881, 587 (Gilgit, n. India; crit.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 157.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886 (and 2d ed., 1895), no. 275; 3rd ed., 1910, 128.—CHAMBERLAIN (M.), Auk, vi, 1889, 217 (s. Greenland, breeding).—CLARKE (W. E.), Zoologist, xiv, 1890, 11 (Jan Mayen Land).—BLAGG, Ibis, 1893, 355 (Shetland Islands, breeding).—PEARSON and BIDWELL, Ibis, 1894, 233 (n. Norway, breeding).—ELLIOT, N. Am. Shore Birds, 1895, 181, pl. 59.—POYNTING, Eggs Brit. Birds, pt. iii, 1896, 25, pl. 6.—PEARSON, Ibis, 1896, 211 (Russian Lapland; descr. eggs), 217 (Kolguev; descr. eggs), 222 (Novaya Zemlya; descr. eggs); 1898, 199 (Waigats, Dolgoi I., Novaya Zemlya and Habarova, n. e. Russia).—POPHAM, Ibis, 1897, 102 (Yenesei R., Siberia); 1898, 513 (Yenesei River).—HARTERT, Ibis, 1904, 420 (Lena River, Siberia).
- [Ægialitis] hiaticula* RIDGWAY, Man. N. Am. Birds, 1887, 177.
- Ægialites hiaticula* BONAPARTE, Geog. and Comp. List, 1838, 45 (Europe).—TRISTRAM, Proc. Zool. Soc. Lond., 1864, 450 (Palestine).—NEWTON, Ibis, 1865, 504 (Spitzbergen).—GURNEY, Ibis, 1868, 255 (South Africa).—SWINHOE, Proc. Zool. Soc. Lond., 1870, 137 (China).—BROOKE, Ibis, 1873, 337 (Sardinia).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 518.—COUES, Check List, 2nd ed., 1882, no. 589.—TREVOR-BATTYE, Ibis, 1897, 588 (Spitzbergen).
- Ægialites hiaticula* COUES, Key N. Am. Birds, 2nd ed., 1884, 603.
- Aegialites hiaticula* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxii, 209.
- Aegialites hiaticula* JACKEL, Journ. für Orn., 1854, 499 (Bayern).—HEUGLIN, Journ. für Orn., 1861, 197 (shores of Red Sea); 1871, 103 (Spitzbergen).—NORDMANN, Journ. für Orn., 1864, 373 (Lapland; Finland).—MALMGREN, Journ. für Orn., 1865, 199 (Spitzbergen).—SALVADORI, Journ. für Orn., 1865, 284 (Sardinia).—BLYTH, Ibis, 1867, 165 (India).—TACZANOWSKI, Journ. für Orn., 1873, 101 (s. Siberia).—HARTERT, Journ. für Orn., 1886, 610 (w. Africa).—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 150 (Disko Island, Greenland, July, Aug.).—KÖNIG, Journ. für Orn., 1893, 84 (Tunis).
- Aegialitis hiaticula* HANTZSCH, Journ. für Orn., July, 1908, 363, in text.
- [Hiaticula] hiaticula* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 94.
- Pluvialis hiaticula* DROSTE, Journ. für Orn., 1864, 421 (Borkum).
- Charadrius hiaticula* FABRICIUS, Faun. Groenl., 1780, 112.
- Charadrius hiaticula* TEMMINCK, Cat. Syst., 1807, 173.
- Charadrius hiaticula* TEMMINCK, Man. d'Orn., 1815, 328; 2nd ed., ii, 1820, 539.—REICHENOW, Journ. für Orn., 1889, 625 (Zanzibar); Jahrb. Hamburg. Wissensch. Anst., x, 1893, 6 (Zanzibar); Vög. Deutsch-Ostafrika, 1894, 34 (Kageyi; Bukoba).—OLPHE-GALLIARD, Contr. Faun. Orn. Eur. Occid., fasc. xiii, 1890, 30 (Novaya Zemlya; n. Russia and Siberia, s. to lat. 55° 55' N.).
- Charadrius hiaticula hiaticula* LOWE, Ibis, July, 1914, 398, 399.
- Ægialitis hiaticula* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 256, 743.
- [Ægialitis] hiaticula* SHARPE, Hand-list, i, 1899, 154.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 67.
- Ægialitis hiaticula* LOWE, Bull. Brit. Orn. Club, xxxvi, no. ccx, Dec. 8, 1915, 8, in text (says *Æ. hiaticula major* is probably a synonym).

- Charadrius torquatus* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 28 (ex *Pluvialis torquatus* Brisson, Orn., v, 1760, 63, pl. 5, fig. 2).
Hiaticula torquata GRAY, List Birds Brit. Mus., iii, 1844, 68.
Charadrius morinellus (not of Linnæus) KEILHAU, Reise Finn., 1827-28, 163 (see Journ. für Orn., 1865, 270).
Aegialitis septentrionalis BREHM, Vög. Deutschl., 1831, 548 (Iceland; Germany).
Hiaticula annulata GRAY, List Gen. Birds, 1840, 65 (new name for *Charadrius hiaticula* Linnæus).
Aegialitis auritus HEUGLIN, Syst. Ueb. Vög. N. O. Afrika, 1856, 56 (*nomen nudum*).
[*Charadrius*] *major* "Tristram," GRAY, Hand-list, iii, 1871, 15 (Palestine; *nomen nudum*!).
Charadrius hiaticula major SEEBOHM, Geog. Distr. Charadr., 1887, pp. xvi, 126.
Charadrius hiaticula major LOWE, Ibis, July, 1914, 395-403 (crit.).
[*Aegialitis*] *hiaticula major* LOWE, Ibis, July, 1914, 396, in text.
Aegialitis hiaticula tundræ LOWE, Bull. Brit. Orn. Club, xxxvi, no. ccx, Dec. 3, 1915, 7 (Valley of Yenesei, e. Siberia; coll. Brit. Mus.).

CHARADRIUS DUBIUS Scopoli.

LITTLE RING PLOVER.

Adult male in summer.—Loral, subocular and auricular regions, anterior portion of forehead and fore part of crown black, all these areas confluent; a white band across forehead (from eye to eye) and a narrower one (sometimes tinged with grayish) crossing crown, immediately behind the black vertical patch, and continued laterally above eyes and auriculars to sides of occiput; rest of upper parts grayish brown (between drab and light hair brown), lighter on rump and median upper tail-coverts, the lateral upper tail-coverts and sides of rump white; primaries dusky, the outermost with shaft white; secondaries margined terminally with white; tail with middle rectrices grayish brown, the other rectrices becoming paler toward the outermost, which is white with blackish subterminal spot on inner web, the next with outer web white, the other rectrices (except middle pair) dusky subterminally and white at tips; malar and subauricular regions, chin and throat, immaculate white, confluent with a broad white nuchal collar; lower neck encircled by a broad collar of black, broader laterally, where invading sides of chest; rest of under parts, including axillars and under wing-coverts, immaculate white; bill black, the base of mandible sometimes yellowish; iris dark brown; naked eye-ring yellow (in life); legs and feet flesh color (in life).

Adult female in summer.—Similar to the adult male and perhaps not always distinguishable, but usually with black head-markings dusky grayish brown or dull blackish, especially those on sides of head, the black collar round lower neck sometimes dusky grayish brown laterally.

Winter plumage.—Black of head-markings and collar round lower neck replaced by grayish brown, and white frontal area less sharply defined; otherwise as in summer.

Young.—Similar to the winter plumage but general tone of plumage more or less buffy, the brown of upper parts broken by buffy margins and dusky submargins to the feathers.

Adult male.—Wing, 99–118.5 (112.3); tail, 55–60 (57.5); culmen, 13–15 (13.3); tarsus, 22.5–25.5 (23.7); middle toe, 14.5–16 (15.3).^a

Adult female.—Wing, 114–118 (115.5); tail, 54–62 (58); culmen, 12.7–13 (12.9); tarsus, 23.5–25.5 (24.3); middle toe, 14–15.5 (15).^b

Europe and Asia, breeding from western Europe to eastern Siberia; winters southward to middle Africa (Fernando Po and Gold Coast on Atlantic side; Somali-land, etc., on eastern side), India, Malay Peninsula, Philippine Islands, Ceylon, Sumatra, Borneo, Java, Celebes, etc., southward to New Guinea and Australia; accidental in California (San Francisco) and Alaska (Kodiak Island).

Charadrius dubius SCOPOLI, Delic. Floræ et Faunæ Insubr., ii, 1786, 93 (Luzon Island, Philippines).—HARTERT, Ibis, 1892, 576 (e. Prussia).—POGGE, Journ. für Orn., 1902, 386 (n. e. Siberia).—HEINROTH, Journ. für Orn., 1902, 400 (Bismarck Archipelago).

Egialitis dubius SWINHOE, Proc. Zool. Soc. Lond., 1871, 401 (s. China; Formosa; Hainan; crit.).—WALDEN, Trans. Zool. Soc. Lond., viii, pt. ii, 1872, 89 (Ayer Pannas, Celebes).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 471 (Ceylon).—TWEEDDALE, Proc. Zool. Soc. Lond., 1878, 344 (South Leyte Island, Philippines).

Egialitis dubia SWINHOE, Ibis, 1875, 452 (Hakodate, Japan).—SHARPE, Ibis, 1876, 51 (Sibu, Borneo); Proc. Zool. Soc. Lond., 1879, 350 (Labuan Island, Borneo); 1901, 314 (near Berbera; Laskerato, Somali-land).—TWEEDDALE, Proc. Zool. Soc. Lond., 1877, 701 (Luzon, Philippines; crit.).—BLAKISTON and PRYER, Ibis, 1878, 219 (Yezo, Tokyo, Fujisan, and Yokohama, Japan).—SEEBOHM, Ibis, 1879, 25 (Japan; crit.).—KELHAM, Ibis, 1882, 10 (Pulo Battam and Singapore, Malay Peninsula; crit.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 276; 3rd ed., 1910, p. 129.—ELLIOT, N. Am. Shore Birds, 1895, 182, pl. 60.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 263, 744.—GRANT, Novit. Zool., vii, 1900, 268 (s. Arabia).—BANGS, Proc. New Engl. Zool. Club, iii, 1903, 94 (Liu Kiu Islands).—JESSE, Ibis, 1903, 162 (Fyzabad and Fatehgarh, India; descr. nest and eggs).—ALEX-

^a Eight specimens.

^b Three specimens.

Locality.	Wing.	Ta	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Italy.....	115	58	13	25.5	16
One adult male from Caucasus.....	109	57	13.5	23.5	15
One adult male from eastern Turkestan (10,400 ft.).....	118.5	60	13	22.5	14.5
One adult male from Valley of Kashmir.....	99	55	13	22.5	14.5
Two adult males from China.....	116.2	57.5	13	23.7	15.5
One adult male from Manchuria.....	114.5	56	13	23	15.5
One adult male from Philippines.....	110	59	15	25	16
FEMALES.					
One adult female from China.....	118	62	13	23.5	15.5
One adult female from Korea.....	114	54	13	24	15.5
One adult female from Europe.....	114.5		12.7	25.5	14
SEX UNDETERMINED.					
One adult (?) from California (type of <i>E. microrhynchus</i> Ridgway).....	111	55.5	12	23	16

- ANDER, Ibis, 1903, 398 (Sipopo, Fernando Po I., w. Africa).—WITHERBY, Ibis, 1903, 565 (Fars, s. w. Persia).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 155 (Seoul, Korea, June 25–Sept. 18 and Dec. 25; Gensan, Korea, July 25).
- [*Aegialitis*] *dubia* SHARPE, Hand-list, i, 1899, 154, part.
- Ægialitis* *dubia* RIDGWAY, Man. N. Am. Birds, 1887, 177.
- Aegialitis dubia* BLASIUS, Ornith., vol. 4, 1888, 319 (Palawan, Philippines).—HARTERT and GRANT, Novit. Zool., xii, 1905, 103 (Flores, Azores).
- Aegialitis dubius* ROTHSCCHILD and HARTERT, Novit. Zool., viii, 1901, 142 (New Guinea).—HARTERT, Novit. Zool., ix, 1902, 425 (Kangean Island).
- Ægialitis dubius* HARTERT, Ibis, 1904, 420 (Lena R., Siberia).
- (?) [*Charadrius*] *erythropus* GMELIN, Syst. Nat., i, pt. ii, 1789, 684 (Egypt; Norway; Russia; Luzon, Philippines).
- [*Charadrius*] *curonicus* GMELIN, Syst. Nat., i, pt. ii, 1789, 692 ("Curonia").
- Ch[aradrius] *curonicus* BESEKE, Beytr. Vög. Kurl., 1792, 67 (Cöroland).
- Charadrius curonicus* TEMMINCK, Cat. Syst., 1807, 175.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 137.—SCHRENCK, Reis. Amurl., 1859, 412.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 208.—FRITSCH, Vög. Eur., 1870, pl. 33, figs. 3, 4.—HOMER, Journ. fur Orn., 1870, 421 (e. Siberia).—DURNFORD, Ibis, 1878, 33 (Asia Minor).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 51; Vög. Deutsch-Ostafrika, 1894, 34 (Ugalla River).
- [*Aegialitis*] *curonicus* SWINHOE, Ibis, 1870, 361.
- Ægialitis* *curonicus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxi.
- Ægialitis curonicus* GRAY, List Brit. Birds, 1863, 141.—ELWES and BUCKLEY, Ibis, 1870, 330 (Bulgaria; Bosphorus).—HARTING, Handb. Brit. Birds, 1872, 134.
- Ægialitis curonica* WALDEN, Ibis, 1873, 316 (South Andaman Island).—DRESSER, Birds Europe, vii, 1876, 491, pl. 524; Ibis, 1876, 328 (Turkestan).—CORDEAUX, Ibis, 1875, 185 (Helgoland).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 10 (synonymy), 198 (Cat. N. Am. Birds, no. 519).—SCLATER and HARTLAUB, Proc. Zool. Soc. Lond., 1881, 174 (Socotra).—SCULLY, Ibis, 1881, 587 (Gilgit, n. India; crit.).—SWINHOE, Ibis, 1882, 120 (Kandahar, Afghanistan).—SEEBOHM, Ibis, 1882, 222 (delta of Volga River; Seal Islands, Caspian Sea).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 159.
- Ægialites curonica* SEEBOHM, Ibis, 1880, 193 (Yenesaïsk and north to lat. 60° 30' Siberia).
- Ægialites* *curonica* BLYTH, Ibis, 1867, 170.
- Ægialites curonicus* BLYTH, Ibis, 1867, 164 (India; crit.).—BULGER, Ibis, 1869, 154 (Sikkim).—SWINHOE, Proc. Zool. Soc. Lond., 1870, 137 (China coast, winter; crit.).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 519.—COUES, Check List, 2nd ed., 1882, no. 590.
- Ægialites* *curonicus* COUES, Key N. Am. Birds, 2nd ed., 1884, 603.
- [*Hiaticula*] *curonica* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 94 (Egypt; Red Sea).
- Hiaticula curonica* GRAY, List Birds Brit. Mus., Grallæ, 1844, 68; Cat. Mamm., etc., Nepal pres. Hodgson, 1846, 133.
- [*Charadrius*] *philippinus* LATHAM, Index Orn., ii, 1790, 745 (Luzon Island, Philippines; based on *Petit Pluvier à collier de l'Isle de Luçon* Sonnini, Voy. Nouv. Guin., 1776, 84, pl. 46).—GRAY, Hand-list, iii, 1871, 15, no. 10000.
- Charadrius philippinus* JERDON, Madras Jour., xii, 1840, 212.—SWINHOE, Ibis, 1861, 260 (Talien Bay, China).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursoree), 1865, 28.—DEGLAND and GÉRBE, Orn. Eur., ii, 1867, 136.—VORDERMAN, Nat. Tijdschr. Nederl. Ind., xlii, 1882, 204 (Java).
- Hiaticula philippina* BLYTH, Cat. Birds Mus. Asiat. Soc. Bengal, 1849, 263 (Calcutta).

- Aegialites philippinus* SWINHOE, Ibis, 1861, 342 (between Takoo and Peking, China).
- Charadrius philippensis* SYKES, Proc. Comm. Sci. Zool. Soc. Lond., ii, 1832, 166 (Dukhun, India).
- Charadrius fluviatilis* BECHSTEIN, Gemeinn. Naturg. Deutschl., iv, 1809, 422 (Germany, etc.).—WYATT, Ibis, 1870, 17 (Tor, Sinai).—HEUGLIN, Orn. N. O.-Afrika, ii, pt. 1, 1873, 1029 (Red Sea; Nile Valley, etc.).—OUSTALET, Bibl. École Hautes-Études, xxxi, 1886, Art. 10, p. 12 (Somali-land).
- [*Charadrius*] *fluviatilis* GRAY, Hand-list, iii, 1871, 15, no. 9999.
- Aegialitis fluviatilis* BREHM, Vög. Deutschl., 1831, 549.—FINSCH and HARTLAUB, Vög. Ost-Afrika, 1870, 659.
- Aegialitis fluviatilis* TAYLOR (E. C.), Ibis, 1867, 68 (Egypt).—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 290 (Lower Petchora River, Russia).
- Aegialites fluviatilis* TACZANOWSKI, Journ. für Orn., 1873, 102 (e. Siberia).
- Pluvialis fluviatilis* DROSTE, Vogelw. Borkum, 1869, 153.
- Charadrius minor* WOLF and MEYER, Vög. Deutschl., Heft xv, 1805.—MEYER and WOLF, Taschenb. Vög. Deutschl., 1810, 324.—TEMMINCK, Man. d'Orn., 1815, 330; 2d ed., ii, 1820, 542.—ROUX, Orn. Prov., 1825, pl. 276.—WERNER, Atlas, Coureurs, 1827, pl. 7.—NAUMANN, Vög. Deutschl., vii, 1834, pl. 177; xiii, 229.—GOULD, Birds Europe, iv, 1837, pl. 297 and text.—MACGILLIVRAY, Man. Brit. Orn., ii, 1840, 53; Brit. Birds, iv, 1850, 128.—CRESSON, Orn. Gard, 1840, 363.—SELYS-LONGCHAMPS, Faune Belge, 1842, 120.—SCHLEGEL, Rev. Crit., 1844, p. lxxxiii; Vog. Nederl., 1854, pl. 214; Dier. Nederl. Vogels, 1861, pl. 21, figs. 9, 9a.—YARRELL, Brit. Birds, 2nd ed., ii, 1845, 473; 3rd ed., 1856, 502.—HEWITSON, Eggs Brit. Birds, ii, 1846, 258, pl. lxxix, fig. 4.—KJÆRBØLLING, Danm. Fugle, 1852, pl. 30, fig. 1.—SUNDEVALL, Svensk Fogl., 1856-72, pl. 37, fig. 3.—FALLON, Ois. Belg., 1875, 152.—SEEBOHM, Ibis, 1882, 380 (Archangel, Russia); 1892, 23 (Helgoland); 1893, 53 (Liu Kiu Islands); Hist. Brit. Birds, iii, 1885, 16, pl. 26, fig. 8 (egg); Geog. Distr. Charadriidæ, 1888, pp. xvi, 130-132, figs.; Birds Japanese Emp., 1890, 306 (breeding in Japan).—STYAN, Ibis, 1891, 330 (lower Yangtse River, China, spring and autumn).—CAMPBELL, Ibis, 1892, 246 (Korea).
- Char [adrius] minor* DROSTE, Journ. für Orn., 1869, 341 (Faroe Islands).
- Aegialitis minor* BOIE, Isis, 1822, 558.
- Aegialitis minor* GOULD, Birds Great Brit., iv, 1871, pl. 42 and text.—HARTING, Proc. Zool. Soc. Lond., 1871, 117 (Alaska ?).—SHELLEY and BUCKLEY, Ibis, 1872, 293 (Accra and Cape-Coast Castle, Gold Coast, w. Africa).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1887, 610 (Seoul, Korea, April); 1888, 467 (Korea).—SHELLEY, Proc. Zool. Soc. Lond., 1888, 49 (Lado, Africa).
- Aegialites minor* HARTING, Proc. Zool. Soc. Lond., 1871, 117 (coast of Arctic America or Alaska ?).—BROOKE, Ibis, 1873, 337 (Sardinia; food).
- Aegialitis minor* BOLAU, Journ. für Orn., 1880, 131 (coast e. Siberia); 1881, 62 (Suifu, e. Siberia).—DÖRRIES, Journ. für Orn., 1888, 90 (e. Siberia).—KÖNIG, Journ. für Orn., 1893, 83 (Tunis).
- Hiaticula minor* HODGSON, in Gray's Zool. Misc., 1844, 86.—RÜPPELL, Syst. Uebers., 1845, 118 (Egypt; shores of Red Sea).
- Charadrius pusillus* HORSFIELD, Trans. Linn. Soc., xiii, 1821, 187 (Java; type now in coll. Brit. Mus.).
- Hiaticula pusilla* BLYTH, Cat. Birds Mus. Asiat. Soc. Bengal, 1849, 264 (Rajmahal).
- Aegialites pusillus* SWINHOE, Ibis, 1860, 63 (Amoy, China, winter; habits).
- Charadrius hiaticula* (not of Linnæus) PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 144.
- Charadrius minutus* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 145 ("in a quosis deserti Barabensis").
- Aegialites minutus* JERDON, Birds India, ii, 1864, 641.

- Charadrius hiaticuloides* FRANKLIN, Proc. Com. Sci. Zool. Soc. Lond., i, 1831, 125 (Ganges River, India).
- Charadrius intermedius* MÉNÉTRIÉ, Cat. Rais. Caucas., 1832, 53 (Lenkoran).—BONAPARTE, Geog. and Comp. List., 1838, 45.
- Aegialitis intermedia* SHARPE, Ibis, 1872, 73 (Accra, w. Africa).
- Aegialitis intermedius* SWINHOE, Ibis, 1870, 361 (Hainan).
- Charadrius zonatus* SWAINSON, Birds West Africa, ii, 1837, 235, pl. 25 (w. Africa).
- Aegialites zonatus* HARTLAUE, Orn. West-Afrika, 1857, 216 (Gambia; Elmina; Sacconde).
- Charadrius alexandrinus* (not of Linnæus) THIENEMANN, Abbild. Vögeleiern, 1845-56, pl. 59.—REICHENOW, Journ. für Orn., 1889, 265 (Quilimane, e. Africa).—SCHALOW, Journ. für Orn., 1891, 259 (Kadiak Island, Alaska).—REICHENOW, Jahrb. Hamb. Wissensch. Aust., x, 1893, 6 (Quilimane).
- Aegialitis alexandrina* DURNFORD, Ibis, 1874, 398 (North Frisian Islands).
- [*Hiaticula*] *simplex* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 94 (East Indies; *nomen nudum*).
- Charadrius gracilis* BREHM, Naumannia, 1855, 288.
- Aegialitis gracilis* BREHM, Vogelf., 1855, 282 (Greece).
- Charadrius pygmaeus* BREHM, Naumannia, 1855, 289.
- Aegialitis pygmaea* BREHM, Vogelf., 1855, 282 (s. e. Europe; Africa, winter).
- Aegialitis microrhynchus* RIDGWAY, Am. Nat., viii, no. 2, Feb., 1874, 109 (San Francisco, California; coll. U. S. Nat. Mus.).—COUES, Check List, ed. 1874, App., p. 133, no. 400 bis.
- Aegialitis microrhyncha* COUES, Birds Northwest, 1874, 456.
- Aegialitis hiaticula* (not *Charadrius hiaticula* Linnæus) RAMSAY, Proc. Linn. Soc. N. S. W., i, 1877, 394 (Port Moresby, New Guinea); ii, 1878, 197 (s. New Guinea); iii, 1879, 279 (Laloki River); Tab. List Australian Birds, 1888, 19 (New South Wales).
- Aegialitis jerdoni* LEGGE, Proc. Zool. Soc. Lond., 1880, 39 (India).
- Aegialitis jerdoni* LEGGE, Birds Ceylon, 1880, 956.—SALVADORI, Orn. Papuasias, etc., iii, 1882, 303; Agg. Orn. Papuasias, etc., iii, 1891, 200; Ann. Mus. Genova, (2), xii, 1891, 75 (Sumatra).—BIDDULPH, Ibis, 1882, 287 (Gilgit, May, Sept.).—DAVIDSON, Stray Feath., x, 1882, 275 (w. Kandeish).—HUME, Stray Feath., xi, 1888, 315 (Manipur basin).—RAMSAY, Tab. List Australian Birds, 1888, 19.
- Charadrius minor jerdoni* SEEBOHM, Geog. Distr. Charadriidæ, 1888, 132.

CHARADRIUS MELODUS Ord.

PIPING PLOVER.

Adult male in summer.—Forehead (broadly), whole of loreal region, and sides of head generally (except auricular region), under parts, and broad nuchal collar immaculate white; patch or band across fore part of crown, extending from eye to eye, and a much larger one on each side of lower neck or upper chest black, the latter sometimes meeting or confluent on median portion; rest of under parts, including axillars and under wing-coverts, immaculate white; upper parts (except as described) pale grayish brown or brownish gray, the anterior lesser wing-coverts darker, the greater coverts tipped with white, the lateral upper tail-coverts and sides of rump also white; secondaries white, the distal ones with outer webs dusky terminally or subterminally; primaries dusky with more or less of white on distal portion of outer webs (their inner webs white for greater part), the proximal quills with outer webs white except terminally; tail pale grayish brown on

middle rectrices fading into white on lateral rectrices, all the rectrices except outer pair with a subterminal dusky area; bill black terminally, orange or orange-yellow basally; iris dark brown; legs and feet orange-yellow (in life).

Adult female in summer.—Similar to the male and not always distinguishable, but usually (?) with the black crown-band and jugular areas more restricted and duller black.

Winter plumage.—Similar to the summer plumage but without black on fore part of crown and lateral jugular patches light brownish gray instead of black.

Young.—Similar to the winter plumage but feathers of upper parts margined with pale buff or whitish.

Downy young.—Forehead, superciliary, loreal, suborbital and malar regions, nuchal collar and under parts immaculate white; crown and occiput pale grayish buffy with a few small and narrow, mostly longitudinal, markings of dusky brown; back, rump, etc., pale grayish buffy, sparsely marked with irregular zig-zag lines of dusky brown, the sides of rump with an ill-defined longitudinal patch of dark brown; anterior portion of wing pale grayish buff with a rather large blotch of dusky brown, the posterior portion, and whole of hand-wing, immaculate white.

Adult male.—Wing, 113–124 (116.7); tail, 47.5–55 (50.6); culmen, 11.5–13.5 (12.6); tarsus, 20.5–23.5 (21.8); middle toe, 14–15.5 (14.8).^a

Adult female.—Wing, 112–121 (114.2); tail, 47–51 (48.7); culmen, 11–13 (11.9); tarsus, 20.5–22.5 (21.2); middle toe, 14–16 (14.4).^b

^a Twenty specimens

^b Eight specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Gulf of St. Lawrence (Amherst Island).....	116	50	11.5	23	15
Two adult males from Massachusetts.....	117.5	51	11.7	23	15
One adult male from Long Island.....	118	50	11.5	21	15
Three adult males from New Jersey.....	117	48.8	12.5	22.2	14.7
One adult male from South Carolina.....	116	52.5	13.5	20.5	14.5
One adult male from Saskatchewan (Lake Winnipeg).....	114	51.5	12	21	15
One adult male from Wisconsin.....	116	50	13	20.5	14
Four adult males from Wyoming.....	119.5	51.9	12.6	22.2	15
One adult male from South Dakota.....	118	52	13	22	15.5
One adult male from Texas.....	116	49	12.5	21.5	15
FEMALES.					
One adult female from Gulf of St. Lawrence (Amherst Island).....	113.5	48	11	21	14.5
One adult female from Massachusetts.....	121	50	12	20.5	14
One adult female from Long Island.....	116	49	11.5	22.5	16
One adult female from New Jersey.....	111.5	50	11.5	22.5	14.5
One adult female from Virginia.....	113	47	12.5	21	14.5
Two adult females from Wisconsin.....	113	49	12.5	21	14.7
One adult female from Wyoming.....	113	48	12	21	14.5

Breeding, locally, from coast of Virginia (Cobbs Island, etc.), northern Ohio (Cedar Point), northwestern Indiana (Millers), north-eastern Illinois (Cook Co.), Iowa, and central Nebraska (Loup River), also Kansas (Douglas Co.)?, northward to southern Saskatchewan, southern Manitoba (Lake Winnipeg, Lake Manitoba), Ontario (Lake of the Woods; Hamilton; Toronto; Point Pelee), southern Quebec (Magdalen Islands and Amherst Island, Gulf of St. Lawrence), and Nova Scotia; wintering on southern Atlantic and Gulf coasts of United States (Georgia to Texas), northern Mexico, and Bahamas (resident?); occasional during migration in Bermudas, Cuba, Jamaica, and Porto Rico.

[*Charadrius*] *hiaticula*, part, LINNÆUS, Syst. Nat., ed. 10, i, 1758, 150 (America).

Charadrius hiaticula, var. WILSON, Am. Orn., v, 1812, 30, pl. 37, fig. 3.

Charadrius melodus ORD, ed. Wilson's Am. Orn., vii, 1824, 71 (Great Egg Harbor, New Jersey).—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 296; Am. Orn., iv, 1832, 74, pl. 24.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 18.—AUDUBON, Orn. Biog., iii, 1835, 154, pl. 220; v, 1839, 578; Synopsis 1839, 224; Birds Am., 8vo ed., v, 1842, 223, pl. 321.—PEABODY, Rep. Orn. Mass., 1839, 359.—WAILLES, Rep. Geol., etc., Miss., 1854, 321.—PUTNAM, Proc. Essex Inst., i, 1856, 216 (Massachusetts).—BRYANT, Proc. Bost. Soc. N. H., vi, 1857, 119 (Nova Scotia).—WILLIS, Ann. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—BLAND, Ann. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursores), 1865, 29.—SEEBOHM, Geog. Distr. Charadriidæ, 1888, pp. xvi, 121.

[*Charadrius*] *melodus* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 99; Obs. Nomencl. Wilson's Am. Orn., 1826, [181].—GRAY, Gen. Birds, iii, 1847, 544.

Char[adrius] melodus MARTENS, Journ. für Orn., 1859, 217 (Bermudas).

[*Charadrius*] *melodus* GRAY, Hand-list, iii, 1871, 16, no. 10010.

Ægialites melodus BONAPARTE, Geog. and Comp. List, 1838, 45.—GOSSE, Birds Jamaica, 1847, 330.—JARDINE, Contr. Orn., 1849, 83 (Bermudas).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas, resident).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 66 (Jamaica).—BREWER, Am. Nat., iii, 1869, 231 (New England coast).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 520.—COUES, Check List, 2nd ed., 1882, no. 587.

Ægialites *melodus*, JARDINE, Contr. Orn., 1850, 9 (Bermudas, Sept. 5).—COUES, Key N. Am. Birds, 2nd ed., 1884, 602.

Ægialites *melodus* ALBRECHT, Journ. für Orn., 1861, 55 (Bahamas).

Aegialitis melodus CABANIS, Journ. für Orn., 1856, 424 (Cuba).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 695.—BAIRD, Cat. N. Am. Birds, 1859, no. 508.—GUNDLACH, Journ. für Orn., 1862, 88 (Cuba; crit.).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 295 (vicinity of New York City).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina).—TURNBULL, Birds E. Penn. and N. J., 1869, 38, fig. (Phila. ed., 29).

Ægialitis melodus SCLATER, Proc. Zool. Soc. Lond., 1861, 80 (Jamaica).—VERRILL, Proc. Essex Inst., iii, 1862, 157 (Oxford Co., Maine).—McILWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—COUES, Proc. Essex Inst., v, 1868, 291 (New England, summer); Check List, 1873, no. 400.—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 445 (New England, summer).—

- CORY, Birds Bahama Is., 1880, 148 (Bahamas, winter and spring).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 230 (Bermudas, 3 specs., 1848, 1850).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 292 (Hudson Bay; Lake of the Woods; Corpus Christi, Texas; etc.).
- Ægialitis melodus* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 383 (Illinois).
- [*Ægialitis melodus* CORY, List Birds West Ind., revised ed., 1886, 25 (Bahamas; Greater Antilles).
- Ægialitis meloda* BREWSTER, Bull. Nutt. Orn. Club, iv, 1879, 44 (descr. young).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 224 (Long Beach, New Jersey, breeding); Auk, ix, 1892, 15 (Jamaica, Oct., 1887, abundant).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886 (and 2d ed., 1895), no. 277; 3rd ed., 1910, 129.—SETON, Auk, iii, 1886, 152 (Lake Manitoba, June 12; Lake Winnipeg, 4 specs.).—CORY, Auk, iv, 1887, 230 (West Indian localities and references); Birds West Ind., 1889, 230; Cat. West Ind. Birds, 1892, 95 (Bahamas; Cuba; Jamaica; Porto Rico).—BISHOP, Auk, vi, 1889, 147 (Magdalen Islands, breeding).—RIVES, Cat. Birds Virginia, 1890, 58 (Cobbs Island, breeding).—ELLIOT, N. Am. Shore Birds, 1895, 185, pl. 61.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 748 (Greenland, Jan.; Eastport, Maine; Ipswich, Massachusetts; Pennsylvania).—FLEMING, Auk, xxiii, 1906, 451 (Toronto, Ontario, regular migrant; all old records are typical form, all recent ones *Æ. m. circumcincta*).—TAVERNER and SWALES, Wilson Bull., no. 60, 1907, 89 (Point Pelee, Ontario, breeding; habits, etc.).—JONES (L.), Wilson Bull., xxi, 1909, 131 (Cedar Point, n. Ohio, breeding).—VISHER, Auk, xxviii, 1911, 10 (Harding Co., South Dakota, July 17, 18).—HOWE, Auk, xxx, 1913, 115 (St. George Bay, Newfoundland).—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 145 (Douglas Co., Kansas, May 27, 1909).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 38 (Porto Rico, rare visitant).—PHILIPP and BOWDISH, Auk, xxxiv, 1917, 266 (n. New Brunswick, breeding; habits).
- Ægialitis meloda* RIDGWAY, Man. N. Am. Birds, 1887, 178.
- [*Ægialitis meloda* SHARPE, Hand-list, i, 1899, 155.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 67.
- Hiaticula meloda* GRAY, List Birds Brit. Mus., iii, 1844, 69.
- [*Aegialeus melodus* GUNDLACH, Journ. für Orn., 1861, 342 (Cuba); 1874, 314 (Porto Rico); 1878, 162 (Porto Rico).—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 336.
- Ægialeus melodus* ALLEN, Proc. Essex Inst., iv, 1864, 86 (coast of Massachusetts, summer).
- Aegialeus melodus* GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 359; Journ. für Orn., 1875, 386 (Cuba); 1878, 189 (Porto Rico); Anal. Soc. Esp. Hist. Nat., vii, 1878, 385 (Porto Rico).
- Charadrius okeni* WAGLER, Syst. Av., 1827, Charadrius, Sp. 24 (based on Wilson, Amer. Orn., v, 1812, pl. 37, fig. 3).
- Ægialitis melodus*, Var. *circumcinctus* RIDGWAY, Am. Nat., viii, no. 2, Feb., 1874, 109 (Loup Fork of Platte River, Nebraska; coll. U. S. Nat. Mus.).
- [*Ægialitis meloda* . . . var. *circumcincta*] a. *meloda* COUES, Birds Northwest, 1874, 455.
- [*Ægialitis meloda*.] a. Var. *meloda* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 160.
- Ægialitis melodus* b. var. *circumcinctus* COUES, Check List, 1873, App. p. 130, no. 400a (*nomen nudum*).
- Ægialitis meloda* b. var. *circumcincta* COUES, Check List, ed. 1874, no. 400a.
- [*Ægialitis meloda* var. *circumcincta*] b. *circumcincta* COUES, Birds Northwest, 1874, 455.

- [Egialitis] melodus* var. *circumcinctus* NELSON, Bull. Essex Inst., viii, 1876, 123 (shore Lake Michigan, n. e. Illinois, April-Sept., breeding; very common).
- Egialitis meloda* var. *circumcincta* EAGLE, Bull. Nutt. Orn. Club, iii, 1878, 94 (Rockaway, Long Island, April 30, 1878).
- [*Egialitis meloda*.] b. Var. *circumcincta* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 160.
- Egialitis meloda circumcincta* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199.—BREWSTER, Auk, iii, 1886, 408 (Sullivan's I., South Carolina, May 11, 1885).—ALLEN, Auk, iii, 1886, 482 (Long Beach, Barnegat Bay, New Jersey, April, 1877; Scarboro Marshes and Portland, Maine, May 17, 1878, and May 2, 1880).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886 (and 2d ed., 1895), no. 277a.—SMITH and PALMER, Auk, v, 1888, 147 (Virginia shore, near Washington, D. C., May 3, 1884).—BROWN (N. C.), Auk, vi, 1889, 70 (Scarboro, Maine).—STONE, Birds E. Penn. and New Jersey, 1894, 80 (Long Beach, New Jersey).—ELLIOT, N. Am. Shore Birds, 1895, 186, pl. 62.—BRACKETT, Auk, xiii, 1896, 256 (Marshfield, Massachusetts, 1 pair, April 20, 1896).—RAINE, Auk, xiii, 1896, 256 (Lake Manitoba, breeding; descr. nest and eggs).—WOODRUFF, Auk, xv, 1898, 62 (Millers, n. w. Indiana, breeding).—BUTLER, Auk, xxiii, 1906, 273 (Millers, Indiana, breeding).
- [Egialitis] meloda circumcincta* RIDGWAY, Man. N. Am. Birds, 1887, 178.
- Egialites melodus circumcinctus* RIDGWAY, Nom. N. Am. Birds, 1881, no. 520a.—COUES, Check List, 2d ed., 1882, no. 588.
- [Egialites] m[elodus] circumcinctus?* COUES, Key N. Am. Birds, 2d ed., 1884, 602.
- Charadrius melodus circumcinctus* SEEBOHM, Geog. Distr. Charadr., 1887, pp. xvi, 122, fig.

CHARADRIUS MONGOLUS Pallas.

MONGOLIAN PLOVER.

Adult male in summer.—A white frontal crescent, sometimes divided by a median black line (usually indicated by superficial spots^a); immediately behind this a crescentic band or bar of black, confluent on each side with a black loreal area, extending from eye to bill, broadest posteriorly, where extending beneath lower eyelid to and involving more or less of auricular region, and, usually, extending, very narrowly, across anterior portion of forehead; a narrow white crescent on lower eyelid; crown and occiput brownish gray or grayish brown (nearly hair brown), passing into pinkish buff or light pinkish cinnamon anteriorly, laterally and posteriorly, this into deep cinnamon on sides of neck and whole chest; malar region, chin, throat and foreneck immaculate white, abruptly defined against cinnamon of chest and sometimes separated from it by a narrow line of dusky or chain of small blackish spots; anterior portion of sides cinnamon, the feathers tipped with white, the posterior portion brownish gray, with broader white tips to feathers; rest of under parts immaculate white; back, scapulars, wing-coverts, tertials and rump plain grayish brown (hair brown), the upper tail-coverts

^a Rarely the white on forehead is reduced to a pair of small and indistinct lateral spots, the forehead being mostly black.

similar but paler and margined with white, the lateral ones broadly edged with white; greater wing-coverts and secondaries tipped with white; middle rectrices deep grayish brown, the other rectrices becoming gradually paler, except subterminally, the outermost with outer web white, and all, except middle pair, narrowly tipped with white; longer primaries dusky, the shorter (proximal) ones becoming gradually lighter grayish brown with basal portion of outer webs white, the outermost with shaft white, the rest with shafts pale grayish brown passing into whitish subterminally; bill black; iris dark brown; legs grayish (in life), the toes darker.

Adult female in summer.—Similar to the adult male and not always distinguishable, but usually with general coloration duller; often with black head-markings replaced, at least in part, by grayish brown, the exterior portion of pileum much less (sometimes scarcely at all) cinnamonaceous, and cinnamon of chest paler.

Winter plumage.—Somewhat similar to the summer plumage but without any cinnamon on chest, neck or pileum, the chest crossed by an indistinct narrow band of grayish brown (broader and deeper in color laterally), the black head-markings replaced by grayish brown.

Young.—Much like the winter plumage but plumage more or less suffused with buff and feathers of upper parts margined with buffy; upper parts brownish gray (nearly mouse gray), the feathers more or less distinctly margined terminally with a paler and more buffy hue, these paler margins broad and very distinct on wing-coverts, nearly obsolete on back; forehead (rather narrowly), supraloral and postocular (supra-auricular) regions, dull buffy whitish or pale dull buffy; loral, suborbital and auricular regions brownish gray, becoming dusky immediately in front of eye; no black on head; malar region and under parts buffy white, more or less strongly suffused or tinged with buff on chest, the upper margin of which is shaded with grayish brown, connecting the lateral patches (one on each side) of same; otherwise essentially like adults.

Downy young.—Sides of head (including a broad supraloral and superciliary stripe) hindneck, and under parts white, slightly tinged with pale grayish buffy, especially on breast and sides, the whole of under parts immaculate; a loral line (from bill to eye), a postocular streak, a small spot near middle of malar region, a larger spot beneath suborbital region, an obliquely transverse bar on sides of nape, and a longitudinal stripe down middle of nape (the last widening posteriorly), black; median portion of crown and occiput (broadly) irregularly mottled with black and cinnamon or sayal brown; back, rump, etc., irregularly but boldly marbled with black, cinnamon and whitish, the markings more longitudinal on back, more transverse on lower rump.

Adult male.—Wing, 123–139 (131.4); tail, 48–55.5 (52.6); culmen, 15–17.5 (16.1); tarsus, 28–34 (30.1); middle toe, 17–19 (18.2).^a

Adult female.—Wing, 126–152.5 (133.6); tail, 49–56 (52); culmen, 14.5–18.5 (16.2); tarsus, 28.5–31 (29.4); middle toe, 18–20.5 (18.8).^b

Breeding in northeastern Siberia and Commander Islands, Kamchatka; migrating southward through Korea, Japan, China, Philippine Islands, Malay Archipelago, etc., to New Guinea and northern Australia; accidental in western Alaska (Choris Peninsula, summer).

Charadrius mongolus PALLAS, Reis. Russ. Reichs, iii, 1776, 700 (Kulussutai, probably on the Onon River, Siberia).—BONNATERRE, Tabl. Enc. Méth., i, 1790, 22.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 143.—BLASIUS, Journ. für Orn., 1883, 126 (Celebes).—HEINROTH, Journ. für Orn., 1902, 400 (Bismarck Archipelago).—MATHEWS, Birds Australia, iii, 1913, pl. [135] facing p. 92.—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 378 (Copper Island, Kamchatka, June).

[*Charadrius*] *mongolus* GMELIN, Syst. Nat., i, pt. ii, 1789, 685.—LATHAM, Index Orn., ii, 1790, 746.

Hiaticula mongola GOULD, Birds Australia, vi, 1846, pl. 19, right-hand fig., and text.—REICHENBACH, Vög. Neuholl., 1851, no. 331.—MACGILLIVRAY, Nat. Voy. 'Rattlesnake', ii, 1852, 358 (n. e. coast Australia; Torres Straits).

[*Pluviorhynchus*] *mongolus* BONAPARTE, Compt. Rend., xliii, 1856, 417.

Ægialitis mongolus SWINHOE, Proc. Zool. Soc. Lond., 1870, 140 (s. China; Hainan; crit.); 1871, 404 (China); Ibis, 1873, 425 (Shanghai, China).

Ægialitis mongola WALDEN, Ibis, 1873, 317 (South Andaman Island).—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 105–108 (Commander Islands, Kamchatka; synonymy, descr., etc.); Proc. U. S. Nat. Mus., x, 1887, 126–128, pl. 7, figs. 3–6 (variations in head-markings); xxi, 1898, 279 (Kuril Islands).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 279; 3rd ed., 1910, 129.—NELSON, Rep. N. H. Coll. Alaska, 1887, 127 (Choris Peninsula, Alaska; descr.).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1888, 456 (Chemulpo Korea).—ELLIOT, N. Am. Shore Birds, 1895, 189, pl. 64.—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 241 (Gichiga, n. e. Siberia).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 155 (Gensan, Korea).

Ægialitis mongola RIDGWAY, Man. N. Am. Birds, 1887, 179.

Ægialitis mongolus HARTERT, Novit. Zool., vii, 1900, 9 (Ruk Island, centr. Carolines).

^a Eight specimens.

^b Eleven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from northeastern Siberia.....	129	51.5	17	30	18.5
Two adult males from Commander Islands, Kamchatka.....	129.7	54.5	15.2	29.5	18
Three adult males from Japan.....	137	53.5	15.5	29.3	18.5
One adult male from eastern Turkestan.....	123	48	17.5	34	17.5
FEMALES.					
Two adult females from northeastern Siberia.....	139.2	50	17.5	31	19
Six adult females from Commander Islands.....	131	52.3	15.4	28.9	18.5
One adult female from Liu Kiu Islands.....	135	53	18.5	29	18
Two adult females from Japan.....	135	52.5	16	29.5	19

- Cirripedemus mongolus mongolus* MATHEWS, Birds Australia, iii, pt. 1, April 2, 1913, 92.
- Ochthodromus mongolus* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 223, 740.—HARTERT, Novit. Zool., vi, 1899, 83 (Rossel Island, Louisiade Archipelago); vii, 1900, 554 (Great Banda Island); xii, 1905, 201 (Bedout Island, n. w. Australia).—BANGS, Bull. Mus. Comp. Zool., xxxvi, 1901, 259 (Liu Kiu Islands, June 1).
- [*Ochthodromus*] *mongolus* SHARPE, Hand-list, i, 1899, 153.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 66 (crit.).
- O[chthodromus] mongolus* HARTERT, Novit. Zool., vi, 1899, 216 (Rossel Island).
- Charadrius mongolicus* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 136.—MIDDENDORFF, Reis. Sibir., ii, pt. 2, Zool., 1851, 211, pl. 19, figs. 2, 3 (Udskoi-Ostrog; mouth of Uda River, July).—SCHRENCK, Reis. Amurl., 1859, 411.—RADDE, Reis. Süd. Ost. Sibir., ii, Vög., 1863, 324 (Tareei-nor, May).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursorees), 1865, 41 (Amur-land; Philippines; Ceram; Morotai; Papua).—FINSCH, Verh. z.-b. Ges. Wien, 1873, [p. 18 of separate].—SCLATER, Proc. Zool. Soc. Lond., 1877, 113 (Bismarck Archipelago), 556 (Admiralty Islands); Voy. 'Challenger,' ii, Birds, 1881, 33 (Admiralty Islands).—ROSENBERG, Malay Archip., 1878-90, 278.—SEVERTZOV, Ibis, 1883, 72 (Alai and Pamir Mts., breeding at 12,000-13,000 ft.; s. part of Trans-Baikalian Siberia, near Mongolian border, on rivers Oxus and Argun; mouth of Uda, Sea of Okotsk; habits).—SIEBOHM, Geog. Distr. Charadriidæ, 1888, pp. xvii, 147, fig. of head; Birds Japanese Emp., 1890, 308.—STYAN, Ibis, 1891, 330, 50, (lower Yangtse River, China); 1893, 436 (Hainan).—CAMPBELL, Ibis, 1892, 246 (Korea).
- Ægialitis mongolicus* HARTING, Ibis, 1870, 389 (Choris Peninsula, Alaska).
- Ægialitis mongolicus* SWINHOE, Proc. Zool. Soc. Lond., 1863, 310 (n. China; Mongolia; Amurland); Proc. Zool. Soc. Lond., 1871, 111, 114 (Choris Peninsula, summer).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 471 (Ceylon).—PELZELN, Verh. z.-b. Verh. Wien, 1873, [p. 6 of separate].—SIEBOHM, Ibis, 1879, 25 (Hakodate and South Yesso, Japan).—RIDGWAY, Cat. Aq. and Fish-eating Birds, 1883, 9 (Choris Peninsula).
- Ægialitis mongolicus* SWINHOE, Ibis, 1870, 360 (Hainan; Shanghai, China).—HARTING, Ibis, 1870, 384 (monogr.; crit.).—LEGGE, Ibis, 1874, 28 (s. Ceylon).
- Ægialitis mongolica* LEGGE, Ibis, 1875, 401 (s. Ceylon).—BLAKISTON and PRYER, Trans. Asiat. Soc. Jap., viii, 1880, 192 (Yokohama and Hakodate, Japan); x, 1882, 108 (Yokohama, Kuril Islands and Hakodate, Japan).—KELHAM, Ibis, 1882, 10 (Pulo Battam, Malay Peninsula; crit.).—NELSON, Cruise 'Corwin' in 1881 (1883), 85 (Choris Peninsula).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 167.—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 585 (Olga Bay, Korea; crit.).—HARTERT, Novit. Zool., ix, 1902, 218 (Deli, Sumatra).
- Cirripedemus mongolicus* HUME, Stray Feath., i, 1873, 230 (Kurrachee harbor; Mekran coast; Korebut, India; crit.).
- [*Cirripedemus*] *mongolicus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 336 (Java).
- Eudromias mongolicus* TACZANOWSKI, Bull. Soc. Zool. France, i, 1876, 248; vii, 1882, 397 (Bering Island); Orn. Vost. Sibir., 1877, 52.—SEVERTZOV, Ibis, 1876, 327 (Turkestan).—TWEEDDALE, Proc. Zool. Soc. Lond., 1878, 344 (South Leyte, Sept.).—STEFNEGER, Proc. U. S. Nat. Mus., vi, 1883, 71 (Commander Islands); Naturen, 1884, 51.—BOGDANOW, Consp. Av. Imp. Ross., 1884, 73 (e. Siberia; Dauria; Bering Island; Ussuri-land).
- Ch[aradrius] cirrhepedemos* WAGLER, Syst. Av., 1827, Charadrius, sp. 18 (no locality).

- Charadrius cirrhipedemus* GRAY, Proc. Zool. Soc. Lond., 1860, 363 (East Gilolo).
[Charadrius] cirrhipedemus GRAY, Gen. Birds, iii, 1847, 544.
[Charadrius] gularis WAGLER, Syst. Av., 1827, Charadrius, sp. 40 (new name for *C. mongolus* Pallas).
Charadrius sanguineus LESSON, Man. d'Orn., ii, 1828, 330 (no locality); *Traité d'Orn.*, 1831, 544.
Hiaticula inornata GOULD, Birds Australia, vi, 1846, pl. 19, right-hand fig., and text (Torres Strait, Australia).—REICHENBACH, Vög. Neuhol., 1851, no. 331.—MACGILLIVRAY, Narr. Voy. "Rattlesnake," ii, 1852, 358 (n. e. coast Australia; Torres Straits).
Aegialitis inornata REICHENBACH, Gallatores, Novit., 1851, pl. 298, figs. 2426–2427.
Aegialitis inornata RAMSAY, Proc. Linn. Soc. N. S. W., i, 1877, 375.—FORBES, Proc. Zool. Soc. Lond., 1878, 127 (Wednesday Island, Torres Straits); Voy. "Challenger," ii, Birds, 1881, 92.
Charadrius inornatus GRAY, Proc. Zool. Soc. Lond., 1858, 187, 197 (Aru Islands); 1861, 438 (Aru Islands); Cat. Mam. and Birds New Guinea, 1859, 62.—ROSENBERG, Nat. Tijdschr. Nederl. Ind., xxv, 1863, 253; Journ. für Orn., 1864, 135; Malay Archipel., 1878–79, 563.—FINSCH, Neu-Guinea, 1865, 181.
Ochthodromus inornatus GOULD, Handb. Birds Australia, ii, 1865, 237.
Aegialitis mastersi RAMSAY, Proc. Linn. Soc. N. S. W., i, 1876, 135 (Rockingham Bay to Cape York, Queensland); ii, 1878, 107; Tab. List. Austral. Birds, 1888, 19 (Gulf of Carpentaria; Rockingham Bay).—LEGGE, Proc. Austral. Assoc. Advanc. Sci., 1892, 38.
Aegialitis ruficapilla? (not *Charadrius ruficapillus* Temminck) BLAKISTON and PRYER, Ibis, 1878, 219 (Yokohama, Japan; see Seebohm, Ibis, 1879, 25).
Aegialitis ruficapilla SEEBOHM, Ibis, 1879, 25 (Hakodate and s. Yezo, Japan; crit.).
Charadrius pyrrhorostrax (not of Temminck) FRITSCH, Vög. Eur., 1870, pl. 33, fig. 18.—ROSENBERG, Malay Archipel., 1878–79, 373 (Aru Islands).

CHARADRIUS NIVOSUS NIVOSUS (Cassin).

SNOWY PLOVER.

Adult male in summer.—Forehead, superciliary region, whole of loreal region, suborbital and malar regions and under parts immaculate white, the sides of chest with a transverse patch of black; fore part of crown and upper portion of auricular region black; rest of upper parts light brownish gray or grayish brown, the crown and occiput often varying to light buff; proximal secondaries mostly white; primaries dusky with white shafts, the proximal quills with much white on outer webs; two outer rectrices (on each side) white, the rest growing gradually darker to the middle pair, which are grayish brown, darker distally; bill and naked eye-ring black; interior of mouth fleshy white (in life); iris dark brown; legs and feet slate color or slate-grayish (in life).

Adult female in summer.—Similar to the male and not always distinguishable, but usually with black of head-markings and on sides of chest much duller, sometimes dusky grayish brown.

Winter plumage.—Similar to the adult female, but black or dusky of head-markings and patch on side of chest replaced by brownish gray or grayish brown.

Young.—Similar to the winter plumage, but feathers of upper parts margined terminally with whitish or buffy whitish.

Downy young.—Upper parts very pale grayish buff, interrupted by a white nuchal collar, the whole colored portion rather sparsely mottled or irregularly spotted with black; forehead, hand-wing, and under parts immaculate white; a dusky postocular streak.

Adult male.—Wing, 101–108 (104.2); tail, 42–47 (44.9); culmen, 14.5–16 (15.1); tarsus, 22.5–25 (23.9); middle toe, 14–15.5 (14.7).^a

Adult female.—Wing, 100–105.5 (102.6); tail, 42–44 (43.4); culmen, 13.5–15.5 (14.6); tarsus, 22–23.5 (22.9); middle toe, 13.5–15 (14.4).^b

Breeding in western United States from Pacific Coast to Salt Lake Valley, Utah (to south-central Kansas?), north to central California, south to northern Lower California; wintering from southern California southward along Pacific coast of Mexico (Mazatlán, Sinaloa), Central America (Costa Rica) and South America to Peru (Chorillos; Tambo Valley, Oct., Nov.) and Chile (Cavanche, May, Oct., Dec.; Valparaiso; Coquimbo, Straits Magellan, June); casual or occasional in Oregon, Washington (Grays Harbor), and Wyoming?. (Accidental on Kadiak Island, Alaska?)

Locality.	^a Nine specimens.					^b Seven specimens.				
	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.										
Four adult males from California.....	103.1	43.7	14.7	23.6	14.7					
Two adult males from southern Lower California.....	104	45.6	15.5	23.7	14					
One adult male from Sonora (migrant).....	108	45.5	15.5	24.5	15					
Two adult males from Utah.....	104.5	46	15	24.5	15.2					
One adult male from Yucatan (<i>C. n. tenuirostris</i>).....	99	37	14.5	23	14					
One adult male from Margarita I., Venezuela (<i>C. n. tenuirostris</i>).....	99	42	15	22.5	14.5					
One adult male from Mississippi (<i>C. n. tenuirostris</i>).....	102	46	13	25	15					
Four adult males from Alabama (<i>C. n. tenuirostris</i>).....	106.1	47.1	15	24.2	14.2					
Four adult males of <i>C. alexandrinus</i>	109	46.5	16.7	26.7	15.7					
FEMALES.										
Four adult females from California.....	103.6	43.5	14.5	22.7	14.4					
Two adult females from southern Lower California.....	101.5	44	15.2	23.2	14.5					
One adult female from Utah.....	101	42	14							
One adult female from Mississippi (<i>C. n. tenuirostris</i>).....	98	41	14	23.5	14					
One adult female from Alabama (<i>C. n. tenuirostris</i>).....	104	47	14	23	14					
One adult female from Florida (<i>C. n. tenuirostris</i>).....	104	44.5	15	23	13.5					
Three adult females of <i>C. alexandrinus</i>	108	46.7	15.5	26.2	15.5					

Measurements of *C. alexandrinus* (*Charadrius alexandrinus* Linnæus; *C. cantianus* Latham) are given for comparison, this being the Old World representative of *C. nivosus*. Besides having longer wings, relatively shorter tail, and decidedly longer tarsi and toes than *C. nivosus*, *C. alexandrinus* has a black loreal stripe and other differences of coloration.

- Charadrius melodus* (not of Ord) VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 30 (San Francisco, California).
- Hiaticula azarae* (not *Charadrius azarae* Temminck) DARWIN, Zool. Voy. 'Beagle,' Birds, 1841, 127, part (Valparaiso, Chile).—SCLATER, Proc. Zool. Soc. Lond., 1867, 331 (Chile).
- Aegialitis nivosa* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 696 (Presidio, near San Francisco, California; coll. U. S. Nat. Mus.); ed. 1860 ('Birds North America'), 696, pl. 90, figs. 1, 2.—CABANIS, Journ. für Orn., 1856, 158 (Peru).—SCHALOW, Zool. Jahrb., Suppl. iv, Sept. 3, 1898, 665 (Cavanche, etc., Chile, May, Oct., Dec.).
- Aegialitis nivosa* TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 559 (Chorillos, Peru); Orn. du Pérou, iii, 1886, 346.—SHARPE, Proc. Zool. Soc. Lond., 1881, 15 (Coquimbo, Straits Magellan, June); Cat. Birds Brit. Mus., xxiv, 1896, 290, 748, part (Tambo Valley, Peru; Valparaiso, etc., Chile; etc.).—SALVIN, Proc. Zool. Soc. Lond., 1883, 428 (Chile).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 278; 3rd ed., 1910, p. 129, part.—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 399 (Chorillos, Peru).—ELLIOT, N. Am. Shore Birds, 1895, 188, pl. 63.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 359, part (Mazatlan, Sinaloa; Costa Rica; western South America to Chile; western United States).—LINTON, Condor, x, 1908, 197 (Buena Vista Lake, Kern Co., California, breeding).—BOWLES, Auk, xxviii, 1911, 172 (Grays Harbor, Washington, Sept. 3, 1899).
- (?) *Aegialitis nivosa* GOSS, Auk, iii, 1886, 409 (salt plains of Cimarron River, Oklahoma, and Comanche Co., Kansas, breeding).^a—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 145 (s. w. Kansas; rare summer resident).^a
- [*Aegialitis*] *nivosa* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.—SHARPE, Hand-list, i, 1899, 155, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 67 (San Francisco, California; Chile).
- Aegialites nivosus* COUES, Ibis, 1866, 274 (s. California).—SCLATER, Proc. Zool. Soc. Lond., 1867, 339 (Chile).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 176 (Tambo Valley, w. Peru; crit.).
- [*Aegialites*] *nivosus* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 570 (w. Peru).
- Aegialitis nivosus* BAIRD, Cat. N. Am. Birds, 1859, no. 509.
- Aegialitis nivosus* MERRIAM, Sixth Ann. Rep. U. S. Geol. Surv. Terr., 1873, 714 (Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1874, 11 (Salt Lake Valley, Utah).
- Aegialitis cantianus* var. *nivosus* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 173 (near Salt Lake City, Utah).—HENSHAW, Rep. Orn. Spec. Wheeler's Surv., 1876, 268 (Santa Barbara, California, July).
- Aegialitis cantianus* . . . var. *nivosus* COUES, Check List, 1873, App., p. 135, no. 401.—RIDGWAY, Am. Nat., viii, 1874, 109 (crit.).
- Aegialitis cantiana* var. *nivosus* COUES, Birds Northwest, 1874, 456.
- [*Aegialitis*] *cantianus nivosus* RIDGWAY, Bull. Essex Inst., vii, Feb., 1875, 31 (Salt Lake Valley, Utah).
- Aegialitis cantianus*, *s. nivosus* RIDGWAY, Orn. Fortieth Parallel, 1877, 604 (near Salt Lake City, Utah, breeding).
- Aegialitis cantiana nivosus* RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 521).
- Aegialitis cantianus nivosus* RIDGWAY, Nom. N. Am. Birds, 1881, no. 521.
- Aegialites cantianus nivosus* COUES, Check List, 2nd ed., 1882, no. 591.
- [*Aegialites*] *cantianus nivosus* COUES, Key N. Am. Birds, 2nd ed., 1884, 603.

^a May be *C. n. tenuirostris*. Specimens not examined.

- Charadrius cantianus nivosus* SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xviii, 171, fig. of head.
- Aegialitis alexandrinus nivosus* STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 35.
- Aegialites alexandrinus nivosus* RIDGWAY, Cat. Aquat. and Fish-eating birds, 1883, 9.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 528 (San Quentin Bay, Lower California; breeding?).
- Charadrius cantianus* (not of Latham, 1790) HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, no. 2, 1859, 64 (San Diego, California, Jan.; descr.; crit.).—SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursores), 1865, 31, part.
- Aegialitis cantiana* COVES, Key N. Am. Birds, 1872, 245.
- Aegialitis cantianus* COVES, Check List, 1873, no. 401.
- (?) *Charadrius alexandrinus* (not of Linnæus?) SCHALOW, Journ. für Orn., 1891, 259 (Kadiak, Alaska).

CHARADRIUS NIVOSUS TENUIROSTRIS (Lawrence).

CUBAN SNOWY PLOVER.

Similar to *C. n. nivosus* but much paler, the general color of upper parts pale drab-gray (sometimes approaching grayish white in mid-summer plumage), the feathers darker centrally.

Adult male.—Wing, 99–107 (103.5); tail, 37–49 (44.8); culmen, 13–15.5 (14.6); tarsus, 22.5–25 (23.9); middle toe, 14–15 (14.4).^a

Adult female.—Wing, 98–104 (102); tail, 41–47 (44.2); culmen, 14–15 (14.3); tarsus, 23–23.5 (23.2); middle toe, 13.5–14 (13.8).^b

Gulf coast of United States, in Florida (Santa Rosa Island, near Fort Pickens, breeding; Perdido Bay, Jan.), Alabama (Dauphine Island, Feb., May, Aug.; Orange Beach, Jan.; Petit Bois, Aug.), Mississippi (Horn Island, July 3), Louisiana, and Texas (Corpus Christi), and southward to Bahamas, Cuba (Guantánamo), Yucatán (Celestín), Venezuela (Margarita Island), and coast of Brazil and Paraguay; also breeding on Salt plains of Cimarron River, Oklahoma and Comanche County, Kansas, and occasional near Toronto, Ontario (May, 1880, and July 6, 1897; three records).^c

Aegialitis tenuirostris LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vii, 1862, 455 (near Guantánamo, Cuba; coll. J. Gundlach).—GUNDLACH, Journ. für Orn., 1862, 181 (Guantánamo, Cuba; crit.).

Aegialeus tenuirostris GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 359; Journ. für Orn., 1871, 294 (Cuba); 1875, 336 (Cuba).

Aegialitis nivosus AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 278, part (Caribbean coast Central America; w. Cuba); 3rd ed., 1910, 129, part (Louisiana; Florida; Bahamas; Cuba; Venezuela; Brazil).—(?) Goss, Auk, iii, 1886, 409 (salt plains of Cimarron River, Oklahoma and Comanche Co., Kansas, breeding).—CORY, Auk, iv, 1887, 229 (West Indian localities and references); Birds West Ind., 1889, 229; Cat. West Ind. Birds, 1892, 95.—SENNETT, Auk, v, 1888, 110, in text (Corpus Christi, Texas, breeding).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 290,

^a Seven specimens.

^b Three specimens.

^c Specimens not seen, but more likely to be this form than *C. n. nivosus*.

part (Cuba; Corpus Christi, Texas).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 656 (Margarita Island, Venezuela).—CHERRIE, Auk, xiv, 1897, 402 (Santa Rosa Island, near Fort Pickens, Florida, breeding).—(?) AMES, Auk, xiv, 1897, 412 (Toronto, Ontario, July 6, 1897; said to be third record).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 359, part (Celestin, Yucatan; Kansas? w. Gulf States).—(?) FLEMING, Auk, xxiii, 1906, 452 (Toronto, Ontario, May, 1880 and July 6, 1897).—BEYER, ALLISON, and KOPMAN, Auk, xxv, 1908, 180 (islands along coast of Louisiana during migration).—(?) BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 145 (s. w. Kansas; rare summer resident).—BEYER, Proc. La. Soc. Nat. for 1897-99 (1900), 97 (common along coast of Louisiana).

[*Aegialitis*] *nivosa* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143, part.—SHARPE, Hand-list, i, 1899, 155, part.

(?) [*Aegialitis*] *nivosa* BERLEPSCH, Journ. für Orn., 1887, 133 (Paraguay).

Aegialites nivosus? (not of Cassin) LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 209 (Celestin, Yucatan; crit.).

[*Aegialitis*] *nivosus* CORY, List Birds West Ind., 1885, and revised ed., 1886, 25 (Cuba).

CHARADRIUS COLLARIS Vieillot.

AZARA'S RING PLOVER.

Adults in breeding season (sexes alike).—Forehead (broadly) suborbital and malar regions, and under parts immaculate white, interrupted by a black loreal stripe (from bill to eye) and a black band across upper chest or lower foreneck, the latter broader laterally; anterior half (more or less) of crown black; rest of pileum, and upper parts in general, grayish brown (deep drab or between drab and hair brown), the feathers more or less distinctly margined with paler; immediately behind the black crown-patch there is often (by no means always) a narrow band of cinnamon, and there is a pronounced tinge of that color along sides of occiput and on nape and hindneck; postocular (supra-auricular) region usually whitish; auricular region grayish brown; greater wing-coverts margined terminally with white; alulae, primary coverts, and primaries much darker grayish brown than wing-coverts, the primary coverts, secondaries, and proximal primaries margined terminally with white, the last with outer webs white basally; middle rectrices dusky grayish brown distally, paler (like back, etc., proximally); two outer rectrices, on each side, wholly white (the second sometimes tinged on part of inner web with pale brownish gray), the next (third) pale brownish gray tipped and edged with white, the inner web with a subterminal spot of dusky; axillars and greater part of under wing-coverts immaculate white, the under primary coverts pale brownish gray tipped with white; bill black; iris dark brown; legs and feet flesh color (in life).

Adults in nonbreeding plumage.—Similar to the breeding plumage but feathers of upper parts (except remiges, etc.) distinctly margined with dull buffy.

Young.—Similar to nonbreeding adults, but without black crown-patch; loreal stripe grayish brown instead of black, and sometimes

indistinct; and jugular band much duller black (sometimes grayish dusky), more or less interrupted in middle portion.

Adult male.—Wing, 86–103 (95.3); tail, 40–52.5 (45.2); culmen, 13–16.5 (14.4); tarsus, 24–27 (25.2); middle toe, 13–15 (13.6).^a

Adult female.—Wing, 89–102 (94.4); tail, 41–48 (42.8); culmen, 13–16 (14.6); tarsus, 23.5–26.5 (24.9); middle toe, 12–14.5 (13.6).^b

Continental Tropical America in general, from southern Mexico, in states of Vera Cruz (Playa Vicente; La Antigua), Oaxaca (Tehuán-tepec), Tabasco (Montecristo), and Chiapas (Chiapa), and southward through Guatemala (Chiapám), Honduras (Chamelicón), Nicaragua (Momotombo; San Emilio), Costa Rica (Rio Frio; Cuabre; Rio Sicsola; Herradura; Pozo del Rio Grande; Barranca de Puntarenas), Panama (Lion Hill), and greater part of South America (both sides), including islands of Trinidad, Tobago, Grenada, and Bonaire) to

^a Twenty-seven specimens.

^b Twenty-three specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Sinaloa.....	90	42.5	14	24.5	13.5
Two adult males from Oaxaca.....	94.5	45.5	15	26.5	14
One adult male from Tabasco.....	100	44	14	.....	.....
One adult male from Chiapas.....	96	45	14.5	25	15
One adult male from Honduras.....	91	42	14.5	25.5	14
One adult male from Nicaragua.....	94.5	42.5	15.5	24	14
Six adult males from Costa Rica.....	95.7	43.8	15	25.2	13.9
Two adult males from Panama.....	95.5	45	14.5	24.5	13.5
One adult male from Colombia.....	97	45	13	25	13
Four adult males from Amazon Valley, Brazil.....	92.7	44.2	14.4	25.5	14
Two adult males from southwestern Brazil (Mattogrosso).....	101.5	50.5	13.5	25.5	14
One adult male from Tobago.....	96	43	14	26	14
One adult male from Paraguay.....	103	52.5	15	25	14.5
Three adult males from eastern Peru.....	96.2	45	13.8	25.2	14
FEMALES.					
Two adult females from Oaxaca.....	94.5	44.5	14.5	24.2	13.7
Three adult females from Costa Rica.....	94.3	44.5	15.2	25.3	14.2
One adult female from Panama.....	94	45	14.5	24	12
Four adult females from Colombia.....	94.2	44.4	15	25	13.6
One adult female from Tobago.....	94	47	14	25.5	14
One adult female from Margarita Island, Venezuela.....	93.5	43	14	24.5	13
Four adult females from British Guiana.....	93	43.9	13.7	25	13.7
Two adult females from Amazon Valley, Brazil.....	98	46.5	15.2	25	13.7
Two adult females from southwestern Brazil (Mattogrosso).....	92	44	.....	26	13.5
One adult female from Paraguay.....	102	48	15	25	14.5
One adult female from eastern Peru.....	94	44	13.5	25	13
One adult female from Argentina.....	92	44	.....	26	13.5

South American specimens, according to the series examined, much more often (in fact usually) have the cinnamon on head and neck present, and also more pronounced; but the difference is by no means constant, occasional Mexican and Central American examples being quite indistinguishable in this respect.

Argentina (Córdoba; Tucumán; Tala; Santa Ana; Orán, Salta; Barracas al Sud; Rio Pilcomayo; Bella Vista; Punta Lara; Mendoza), Paraguay (Monte Alto; upper Rio Paraná; Rio Pilcomayo), Uruguay (Montevideo; Concepción; Rio Negro), Bolivia (Reyes; Falls of Rio Madeira; Caiza), and Peru (Rio Ucayali; Santa Cruz; Cosnipata; La Merced; Cashibaya; Tarapoto; Pebas; Yquitos).

Charadrius collaris VIEILLOT, Nouv. Dict. d'Hist. Nat., xxvii, 1818, 136 (Paraguay; Enc. Méth., ii, 1823, 334 — LICHTESTEIN, Verz. Säug. und Vögel Mus. Berlin, based on *Imbatuitius collar negro* Azara, Apunt. Parag., iii, 1803, 291); Tabl. 1818, 33 (based on "*Ch. hiaticula* var. β . Gmel. Lath.;" spec. from Brazil in Berlin Mus.). — HARTLAUB, Index Azara's Apunt., 1847, 24. — SCHLEGEL, Mus. Pays-Bas, iv, no. 29 (Cursores), 1865, 37. — SEEBOIM, Geog. Distr. Charadriidae, 1887, pp. xviii, 173, fig. of head. — FRENZEL, Journ. für Orn., 1891, 126 (Cordova, Argentina).

[*Charadrius*] *collaris* GRAY, Gen. Birds, iii, 1847, 547.

[*Charadrius*] *collaris* GRAY, Hand-list, iii, 1871, 16, no. 10017.

Egialitis collaris SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 199 (upper and lower Rio Ucayali, e. Peru; descr. egg); 1873, 309 (upper and lower Rio Ucayali and Santa Cruz, e. Peru; habits; descr. eggs). — HARTING, Proc. Zool. Soc. Lond., 1874, 458, pl. 60, fig. 7 (egg). — LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 46 (Tehuantepec, Oaxaca, Oct., Nov.). — ALLEN, Bull. Essex Inst., viii, 1876, 83 (Arjos, lower Amazon); Bull. Am. Mus. N. H., ii, 1889, 109 (Reyes and Falls of Rio Madeira, Bolivia); v, 1893, 149 (Corumba, Brazil). — DURNFORD, Ibis, 1878, 67 (Buenos Aires, Argentina). — WHITE, Proc. Zool. Soc. Lond., 1882, 628 (Buenos Aires). — BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 153. — BARROWS, Auk, i, 1884, 313 (Concepcion, Uruguay, March, Aug.). — SALVIN, Ibis, 1886, 178 (Bartica Grove, Brit. Guiana). — TACZANOWSKI, Orn. du Pérou, iii, 1886, 344. — KEER, Ibis, 1892, 150 (Rio Pilcomayo, Argentina; habits). — RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 526 (Rio Frio, Costa Rica). — APLIN, Ibis, 1894, 206 (Rio Negro, Uruguay; habits). — ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 657 (Margarita Island, Venezuela). — SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 288, 747 (Playa Vicente and La Antigua, Vera Cruz; Chiapam, Guatemala. Momotombo, Nicaragua; Santa Marta and Bogota, Colombia; Intac, Ecuador, Cosnipata, Peru; Laguna de Valencia, Venezuela; Brit. Guiana, etc.). — HOLMBERG, Segundo censo Argentina, i, 1898, 565. — BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1902, (2), 51 (La Merced, Peru). — SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 359 (Playa Vicente and La Antigua, Vera Cruz; Tehuantepec, Oaxaca; Chiapam, Guatemala; Momotombo, Nicaragua; Rio Frio, Costa Rica; Panama; Grenada, Lesser Antilles). — NICOLI, Ibis, 1904, 40 (Bahia, Brazil). — CARRIKER, Ann. Carnegie Mus., vi, 1910, 417 (Cuabre and Rio Sicsola, Costa Rica). — GRANT (C. H. B.), Ibis, 1911, 465 (Monte Alta, etc., Paraguay, Aug., Sept.).

[*Egialitis*] *collaris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 143. — SHARPE, Hand-list, i, 1899, 155. — FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 67 (Cumana, Venezuela; upper Rio Ucayali and Cashibaya, Peru; Mexico).

Egialitis *collaris* RIDGWAY, Man. N. Am. Birds, 1887, 179.

Egialites collaris SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 591 (Mexiana Island and Rio Tocantins, Brazil); 1869, 252 (Laguna de Valencia, Venezuela); 1873, 186 (Cosnipata, Peru). — HARTERT, Ibis, 1893, 335 (Bonaire Island, Dutch West Indies; crit.).

- Aegialitis collaris* BERLEPSCH, Journ. für Orn., 1887, 36 (Rio Pilcomayo, Paraguay), 125 (Paraguay); 1889, 320 (Tarapoto, n. e. Peru; crit.).—KÖNIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. Brazil).—SALVADORI, Boll. Mus. Zool., etc., Torino, xii, 1897, 35 (Caiza, s. Bolivia; Tala, n. Argentina).—IHERING, Rev. Mus. Paulista, iii, 1899, 431 (São Sebastiao and Iguape, São Paulo, s. Brazil); iv, 1900, 290 (descr. eggs); vi, 1904, 343 (Paraguay), 452 (Rio Jurua, Amazon Valley).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 129 (Altigracia, Venezuela).—HARTERT, Novit. Zool., ix, 1902, 307 (Bonaire).—BAER, Orn., xii, 1904, 231 (Santa Ana, Argentina).—BRUCH, Rev. Mus. La Plata, xi, 1904, 250 (Oran, Salta, Argentina).—HAGMANN, Zool. Jahrb., 1907, 44 (Mexiana I., Brazil).—SNETHLAGE, Journ. für Orn., 1908, 23 (Rio Purus, w. Brazil), 517 (Goyana, Tápajós, Brazil); Bol. Mus. Goeldi, v, 1908, 69 (Rio Purus).—HELLMAYR, Novit. Zool., xv, 1908, 101 (Rio Araguaya, Brazil; crit.).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 250 (Barracas al Sud, etc., Argentina).—REISER, Denkschr. Mat.-Nat. Kaiserl. Ak. Wiss. Wien, 1910, 94 (Joazeiro, etc., n. e. Brazil).—DABBENE, Orn. Argentina, 1910, 217 (Cordoba; Tucuman; Oran, Salta; Bella Vista; Barracas al Sud, Buenos Aires).—BERTONI, Fauna Parag., 1914, 38 (upper Rio Parana).
- Hiaticula collaris* SCLATER, Proc. Zool. Soc. Lond., 1860, 290 (Babahoyo, w. Ecuador).
- [*Leucopoliis*] *collaris* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 337 (Venezuela; Pernambuco, Brazil).
- Charadrius azarae* TEMMINCK, Pl. Col., v, 1823, pl. 184 and text (Brazil).—LESSON, Traité d'Orn., 1831, 544.
- [*Charadrius*] *azarae* LICHTENSTEIN, Verz. Doubl., 1823, 71 (Brazil; Montevideo, Uruguay; cites *Ubatutui à collier noir* Azara, Apunt. Parag., 392; *Pluvier Azara* Temminck, Pl. Col. 184).—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 751.
- Charadrius azarae* MAXIMILIAN, Beitr. Naturg. Bras., iv, 1832, 772.—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 360; Reise La Plata-St., ii, 1861, 501.—PELZELN, Orn. Bras., 1870, 297 (Piehy, March; Marambaya, March; Villa de Castro, Dec.; Cuyaba, Jan.; Caicara, May; Barra do Rio Negro, April; Cajutuba).
- [*Charadrius*] *azarae* PELZELN, Orn. Bras., 1870, 455.
- Hiaticula azarae* GOULD, Zool. Voy. "Beagle," iii (Birds), 1841, 127, part (banks of Rio de la Plata).—GRAY, List Birds Brit. Mus., iii, Gallæ, 1844, 70.—SCLATER, Proc. Zool. Soc. Lond., 1860, 298 (Esmeraldas, w. Ecuador); 1867, 331 (Chile).
- Aegialitis azarae* LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 334 (Lion Hill, Panama).
- Charadrius larvatus* "Temm." LESSON, Man. d'Orn., ii, 1828, 318 (Brazil).
- Aegialitis gracilis* CABANIS, Journ. für Orn., March, 1872, 158 (Tehuantepec, Oaxaca, s. w. Mexico; coll. Berlin Mus.).—REICHENOW, Journ. für Orn., 1885, pl. 6, figs. 3a, 3b.
- Aegialites nivosus* (not *Aegialitis nivosa* Cassin) SALVIN, Ibis, 1865, 191 (Chiapam, Guatemala).
- Aegialites nivosus*? SALVIN, Ibis, 1866, 196 (Chiapam).

Family SCOLOPACIDÆ.

SNIPES, SANDPIPERS, ETC.

- Scolopacidæ* BONAPARTE, Saggio distr. An. Vertebr., 1831, 57.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 689, 708.—COUES, Key N. Am. Birds, 1872, 248; 2d ed., 1884, 614.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108, 178.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 147; 3rd ed., 1910, 108.—RIDGWAY, Man. N. Am. Birds, 1887, 147.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.

- > *Scolopacidae* CARUS, Handb. Zool., i, 1868, 334 (includes *Dromadidae*).—SHARPE, Review Rec. Att. Classif. Birds, 1891, 73 (includes *Phalaropodidae* and *Recurvirostridae*).
- < *Totaniinae* CARUS, Handb. Zool., i, 1868, 335.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, xi, 91, 337; Hand-list, i, 1899, xv, 157.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 364.
- < *Scolopacinae* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, xii, 91, 520; Hand-list, i, 1899, xvi, 162.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 384.
- = *Scolopacinae* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 144.

Very small to very large Charadriiformes with tarsus transversely scutellate both in front and behind (except in most of the *Numeniinae*, in which the *planta tarsi* is covered with small hexagonal scales), less than twice as long as middle toe with claw, and not unusually compressed; bare portion of tibia shorter than middle toe with claw, and toes without a conspicuous lateral membrane.

The *Scolopacidae* are small, medium-sized, or large shore-birds allied to the *Charadriidae* (Plovers) but differing in the scutellate instead of reticulate acrotarsium, differently formed bill, and exceptional absence of the hallux. They are also closely related to the *Phalaropodidae* (*Phalaropes*) and *Recurvirostridae* (*Avocets* and *Stilts*) from which they differ, in part, in the characters mentioned in the above brief diagnosis. Typical genera are very different indeed from any members of the related families; but the *Scolopacidae* embrace such a large number of forms that it is difficult to find characters (external ones, at least) which will serve to distinguish them all, as a family, from the groups mentioned. The most highly specialized subfamily, the *Scolopacinae*, comprising the woodcocks and true snipes, has the bill much elongated, covered by a soft skin, and provided at the tip with extremely sensitive nerves, which enable these birds, by probing the soil or mud, to detect, by the sense of touch, worms and other minute animal forms on which they feed. The eye is large and placed unusually high in the head, and the ear is placed beneath or even anterior to the center of the orbit. These characters are most pronounced in the woodcocks (genera *Scolopax* and *Philohela*), being slightly less developed in the snipes (genera *Gallinago*, etc.), and still less so in intermediate forms (*Limosa*, *Pseudoscolopax*, *Limnodromus*, and *Micropalama*, which lead directly from the *Scolopacinae* to the *Erolinae*, though probably all belonging to the latter group.

The *Scolopacidae* are among the most widely dispersed of birds, a large proportion of the species being more or less cosmopolitan; but this is owing to their extensive migration, a very great majority of them being confined during the breeding season to the more northern portions of the northern hemisphere, in subarctic and cold-temperate districts of Europe, Asia, and North America. More than 30 species, belonging to nineteen genera, are exclusively American, and of these only about twelve, belonging mostly to *Gallinago* or closely allied

genera, belong to South America, among these being the monotypic genus *Phegornis* and a single species of *Rostratula*, a genus occurring elsewhere only in Africa, southern Asia, and Australia. Not a single species has been discovered which is peculiar to the extensive region between the northern boundary of the United States and the northern extremity of South America, though several have the greater part of their summer range included within the territory of the United States.

KEY TO THE NORTH AND MIDDLE AMERICAN GENERA OF SCOLOPACIDÆ.^a

- a. Bony orbital ring complete; ear-orifice anterior to middle of orbit; mandibular rami very strongly and abruptly deflected; posterior profile of skull subconical, much narrower above than below.^b (*Scolopacinae*).^c

^a Our knowledge concerning the anatomy of the Scolopacidae is so fragmentary that a satisfactory arrangement of the genera is as yet impracticable. It is true that much has been done, of late, toward the establishment of a sound classification, based on osteological characters, by Mr. Percy R. Lowe, in his "Study of the Charadriiformes", especially the first paper, "On the Systematic Position of the Ruff (*Machetes pugnax*) and Semipalmated Sandpiper (*Ereunetes pusillus*)" (Ibis, July, 1915, pp. 609-616), wherein are given what appear to be excellent reasons for the recognition of two subfamilies, apart from the Scolopacinae, namely, the Erolinae and Tringinae. Unfortunately Mr. Lowe's researches are confined to only part of the genera, and he leaves us in ignorance concerning the affinities of *Limosa*, *Vetula*, *Pseudoscolopax*, *Limnodromus*, *Catoptrophorus*, *Heteroscelus*, *Tryngites*, *Bartramia*, *Numenius*, *Phæopus*, and *Mesoscolopax*. The first three of these almost certainly belong to the Erolinae, and the two following to the Tringinae; but the position of *Tryngites*, *Bartramia*, *Numenius*, *Phæopus*, and *Mesoscolopax* is quite uncertain, and consequently I am not able to avail myself of Mr. Lowe's two groups in the construction of the above "key" which therefore must be understood as a purely artificial one. *Rostratula* and the true Scolopacinae also require special investigation, especially the former, which doubtless, on account of its many marked peculiarities, represents a distinct subfamily, Rostratulinae. It is possible that if Mr. Lowe had been able to study all these genera when his paper was prepared he might have found that his groups, Erolinae and Tringinae, are not so distinct as they appeared to be, some of the genera not examined being possibly intermediate in characters. However this may be, the Scolopacinae (woodcocks and true snipes) seem to form one end of the series, the Erolinae coming between them and the Tringinae.

The South American genera *Phegornis* (*Leptopus*, not of Rafinesque, 1822, Fraser, Proc. Zool. Soc. Lond., 1844, 157; type, *L. mitchelli* Fraser.—*Leptodactylus*, not of Fitzinger, 1826, Fraser, Proc. Zool. Soc. Lond., 1844, 157; to replace *Leptopus* Fraser, preoccupied.—*Leptoscelis*, not of Halliday, 1833, Des Murs, Icon. Orn., 1840, pl. 41; new name for *Leptopus* and *Leptodactylus* Fraser, preoccupied.—*Phegornis* Gray, Gen. Birds, iii, 1847, 545; type, *Leptopus mitchelli* Fraser), and *Rostratula* are not included in the key. The former I have not been able to examine.

^b Doubtless many additional characters may be found by examination of the entire skeleton.

^c The curious genus *Rostratula* Vieillot (Analyse, 1816, 56, type, *Scolopax capensis* Linnæus; *Rhynchæa* Cuvier, Règne Anim., 1817, 487, same type) has usually been placed with this group, but, judging from external characters alone, almost certainly does not belong here. The bill is distinctly decurved terminally, and the distal portion of the maxilla is hard, smooth, and with a median ridge instead of being soft, pitted, and noncarinate, as in the Scolopacinae. The sexes differ conspicuously both in size and coloration, the females being larger and more brightly colored than the males. The geographic range of the genus is also peculiar, the three known species being confined, respectively, to southern South America, Australia, and southern Africa and Asia.

- b. Thighs feathered down to tibio-tarsal joint; pileum transversely barred or banded. (*Woodcocks*.)
- c. Outermost primaries normal, the first (from outside) longest or equal to the longest..... *Scolopax* (p. 149).
- cc. Outermost primaries abnormal, the fourth or fifth (from outside) longest, the first three shorter and abruptly much narrower *Philohela* (p. 155).
- bb. Thighs with lower portion naked; pileum longitudinally striped. (*Snipes*.)
Gallinago (p. 159).
- aa. Bony orbital ring very incomplete, widely interrupted below and anteriorly; ear-orifice posterior to middle of orbit; mandibular rami much less strongly and abruptly deflected; posterior profile of skull subquadrate, at least as broad above as below.
- b. Nasal fossæ relatively broad posteriorly, contracting anteriorly into a narrow groove which extends nearly to tip of maxilla. (*Erolia*.)^a
- c. Anterior toes more or less webbed at base.
- d. Exposed culmen more than one-third as long as wing.
- e. Tip of bill very slightly expanded, the expanded portion very short, not distinctly punctulate; tarsus nearly to quite twice as long as middle toe without claw, sometimes more than twice as long.
- f. Bill straight (not at all upturned distally), very slightly flattened terminally; legs relatively longer (bare portion of tibia usually longer than middle toe without claw, tarsus usually more than one-third as long as wing); toes longer and more slender, the middle one, with claw, usually more than one-fifth as long as wing; claw of middle toe long (about one-third as long as rest of toe), linear, much flattened and straight or even slightly recurved terminally, fragile, pectinate.
Limosa (p. 177).
- ff. Bill distinctly upturned distally, much flattened for distal third or more; legs relatively shorter and stouter (bare portion of tibia usually shorter than middle toe without claw, tarsus usually less than one-third as long as wing); toes shorter and stouter, the middle one, with claw, less than one-fifth as long as wing; claw of middle toe normal (short, blunt, decurved, nonpectinate) *Vetola* (p. 182).
- ee. Tip of bill distinctly expanded or dilated, the expanded portion occupying the distal third or more and distinctly punctulate; tarsus much less than twice as long as middle toe without claw.
- f. A distinct web between inner and middle toes at base.
Pseudoscolopax (extralimital).^b
- ff. No web between inner and middle toes *Limnodromus* (p. 195).

^a The following osteological characters are given by Lowe (*Ibis*, 1915, 612) as distinguishing this subfamily from the *Tringinae*: Distal end of premaxilla depressed, slightly, sometimes conspicuously, spatulate (e. g. *Eurymorhynchus*), minutely pitted; pterygoid processes short, thick, and conspicuously divergent; palatal plates wider posteriorly than anteriorly; maxillo-palatine process completely fused with prepalatal portion of palatal plate on either side, as a thin, elongate plate with parallel internal border devoid of sculpturing; inwardly projecting plate of maxillary fenestrated; line of culmen making an obtuse angle (about 140°) with the basi-sphenoidal rostrum; zygomatic arch or quadro-jugal rod making a very distinct angle with the maxillary process of premaxillary; supraorbital grooves indistinct; post-articular process of mandible directed upward in abruptly hook-shaped fashion; supra-occipital region of skull, viewed from above, rounded.

^b *Pseudoscolopax* Blyth, Journ. Asiat. Soc. Bengal, xxviii, 1852, 280; type, *Macrorhamphus semipalmatus* Jerdon. Eastern Asia; monotypic.

- dd. Exposed culmen less than one-third as long as wing.
 - e. A web between inner and middle (as well as between outer and middle) toes.
 - f. Tarsus more than one-third as long as wing.....*Micropalama* (p. 204).
 - ff. Tarsus not more than one-fourth as long as wing.....*Ereunetes* (p. 209)
 - ee. No web between inner and middle toes*Machetes* (p. 218).
- cc. Anterior toes cleft to the base (no webs).
- d. Hallux present.
 - e. Bill not distinctly if at all expanded terminally.
 - f. Feathering on lores extending to nostrils, that on malar region extending nearly as far forward as anterior end of nostrils; inner webs of remiges marbled or freckled.....*Tryngites* (p. 225).
 - ff. Feathering on lores not extending to nostrils, that on malar region not extending beyond posterior end of nostrils; inner webs of remiges not marbled or freckled. (*Erolia*.)
 - g. Middle pair of rectrices not longer than the rest; tail less than two-fifths as long as wing*Canutus* (p. 230).
 - gg. Middle pair of rectrices distinctly longer than the rest; tail at least two-fifths as long as wing.
 - h. Exposed culmen longer than tarsus.
 - i. Bill stouter; tarsus less than one-fifth as long as wing, shorter than middle toe and claw.....*Arquatella* (p. 238.)
 - ii. Bill more slender; tarsus more than one-fifth as long as wing, longer than middle toe and claw.
 - j. Bill distinctly decurved distally; middle toe, with claw, less than three-fourths as long as tarsus.....*Erolia* (p. 249).
 - jj. Bill not distinctly decurved distally; middle toe, with claw, four-fifths as long as tarsus.....*Pelidna* (p. 256).
 - hh. Exposed culmen shorter than tarsus.....*Pisobia* (p. 266).
 - ee. Bill conspicuously expanded (paddle-shaped) terminally.
 - Eurynorhynchus* (p. 302).
 - dd. Hallux absent*Calidris* (p. 307).
- bb. Nasal fossæ relatively narrow posteriorly, continued anteriorly as a broad groove for not more than two-thirds the length of the maxilla, or else (*Actitis*) inner web of remiges crossed by a broad band of white spots. (*Tringinae*.)^a
- c. Bill not at all decurved distally.
 - d. Tail shorter than tarsus (much less than half as long as wing), not graduated; exposed culmen much more than six-tenths as long as tarsus.
 - e. Nasal groove extending for much less than two-thirds the length of maxilla; inner webs of remiges not crossed by a white band.

^a According to Lowe (*Ibis*, 1915, 612) the *Tringinae* are easily distinguished from the *Erolinae* by the following osteological characters: Distal end of premaxilla more elongated and pointed, less elastic, and with slit-like depressions instead of pits; pterygoid processes long, ribbon-shaped, more parallel toward pterygoid articulation; maxillo-palatine process extending backward on either side of vomer, as a very attenuated pyriform or sac-like process, free for greater part of its course; inwardly projecting plate of maxillary not distinctly if at all fenestrated; line of culmen gradually ascending to nasal region, where abruptly inclined upward; zygomatic arch or quadrato-jugal rod not making a distinct angle with maxillary process of premaxillary; supraorbital grooves conspicuous; postarticular process of mandible not hook-shaped; supra-occipital portion of skull (viewed from above) conical.

The genera *Bartramia*, *Numenius*, *Phaeopus*, and *Mesoscolopax* were not examined by Mr. Lowe, and may not belong to this group, in which I place them tentatively; *Tryngites* and *Limosa*, for the same reason, being provisionally referred to the *Erolinae*.

- f. A distinct web between basal portion of inner and middle toes.
- g. Axillars uniform dusky; primaries extensively white basally; larger, with stouter bill and feet (wing more than 180 mm.),
Catoptrophorus (p. 314).
- gg. Axillars white; primaries without white at base; smaller, with more slender bill and feet (wing about 175 mm.),
Pseudototanus (extralimital).^a
- ff. No web between inner and middle toes.
- g. Planta tarsi scutellate; axillars white, with or without gray bars; tail barred.
- h. Tarsus more than one and a half times as long as middle toe without claw.
- i. Nasal groove extremely short, extending for not more than one-fourth the length of maxilla; symphysis of mandible posterior to the middle.....*Erythroscelus* (extralimital).^b
- ii. Nasal groove longer, extending for more than one-fourth (usually more than one-third) the length of maxilla; symphysis of mandible anterior to the middle.
- j. Nasal groove extending half way to tip of maxilla; bill stouter; tarsus slightly less than one-third as long as wing.
- k. Bill stouter (its depth at base equal to about one-seventh the length of exposed culmen), more compressed, distinctly recurved or upturned for distal half, the exposed culmen nearly as long as tarsus; tarsus less than one-third as long as wing; rump and lower back white.*Glottis* (p. 322).
- kk. Bill more slender (its depth at base equal to not more than one-eighth the length of culmen), less compressed, not distinctly recurved, the exposed culmen much shorter than tarsus; tarsus one-third as long as wing; rump and lower back dusky.....*Neoglottis* (p. 329).
- jj. Nasal groove extending only one-third the length of maxilla; bill more slender; tarsus much more than one-third as long as wing.....*Iliornis* (extralimital).^c
- hh. Tarsus decidedly less than one and a half times as long as middle toe without claw.
- i. Exposed culmen shorter than tarsus; nasal groove broad; outermost primaries with shafts white; metasternum 4-notched.
Ehyacophilus (p. 346).
- ii. Exposed culmen not shorter than tarsus; nasal groove narrow; outermost primaries with shafts dark brown; metasternum 2-notched.....*Tringa* (p. 352)
- gg. Planta tarsi reticulate; axillars and tail plain brownish gray.
Heteroscelus (p. 365).
- ee. Nasal groove extending for more than two-thirds the length of maxilla; inner webs of remiges crossed by a broad band of white..*Actitis* (p. 371).

^a *Pseudototanus* Hume, *Stray Feathers*, vi, 1878, 488; type, *Totanus guttifer* Nordmann.—*Pseudoglottis* Stejneger, *Zeitschr. Ges. Orn.*, i, 1884, 223; type, *Totanus guttifer* Nordmann. Northeastern Asia. (Monotypic.)

^b *Erythroscelus* Kaup, *Skizz. Entw.-Gesch. Natürl. Syst.*, 1829, 54; type, *Scolopar fusca* Linnæus.—*Erythroscelis* Sharpe, *Cat. Birds Brit. Mus.*, xxiv, 1896, 409, in synonymy of genus *Totanus*. Northern Europe and Asia, southward in migration. (Monotypic.)

^c *Iliornis* Kaup, *Skizz. Entw.-Gesch. Natürl. Syst.*, 1829, 156; type, *Totanus stagnatilis* Bechstein.—*Ilyornis* Kaup, *Skizz. Entw.-Gesch. Natürl. Syst.*, 1829, 195.

- dd. Tail decidedly longer than tarsus (nearly half as long as wing), graduated or strongly rounded; exposed culmen not more than six-tenths as long as tarsus *Bartamia* (p. 378).
- cc. Bill decurved distally. (*Numenius*.)
- d. Bill longer than tarsus with middle toe, usually (?) more than half as long as wing, longer than tail; size larger (exposed culmen more than 100, tarsus more than 65, usually more than 75, mm.) *Numenius* (p. 385).
- dd. Bill shorter than tarsus with middle toe, less than half as long as wing, not longer than tail; size smaller (exposed culmen less, usually much less, than 100, tarsus less than 65 mm.).
- e. Tarsus more than twice as long as middle toe with claw; bill more slender, its depth of base equal to only about one-tenth the length of exposed culmen *Zarapita* (extralimital).^a
- ee. Tarsus less than twice as long as middle toe with claw; bill stouter, its depth at base equal to about one-seventh the length of exposed culmen.
- f. Bill stouter, less attenuated terminally, more strongly arched, with exposed culmen as long as or longer than tarsus and first two phalanges of middle toe; larger (exposed culmen more, usually much more, than 65; tarsus more than 50 mm.) *Phaeopus* (p. 395).
- ff. Bill more slender, more attenuated terminally, less strongly (sometimes hardly perceptibly) arched, the exposed culmen shorter than tarsus and first phalanx of middle toe; smaller (exposed culmen not more than 60, tarsus not more than 45 mm.) *Mesoscolopax* (p. 410).

Genus SCOLOPAX Linnæus.

- Scolopax*^b LINNÆUS, Syst. Nat., ed. 10, i, 1758, 145. (Type, as designated by Gray, 1840, and by elimination, *S. rusticola* Linnæus.)
- Rusticola* (not of Houttuyn, 1770) VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 348; Analyse, 1816, 56. (Type, by tautonymy, *R. vulgaris* Vieillot=*Scolopax rusticola* Linnæus.)
- Rusticola* (emendation) VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1818, 124.
- (?) *Nesoscolopax* SALVADORI, Ann. Mus. Civ. Genova, xviii, 331. (Type, by original designation, *Scolopax rochussenii* Schlegel.)
- (?) *Parascolopax*^c MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 290, in text. (Type, by original designation, *Scolopax saturata* Hodgson.)

Very large Scolopacinae (wing 179–200 mm.) with tibia completely feathered, tarsus shorter than middle toe with claw, and outer primaries normal.

Bill long, straight, tapering in lateral but not in vertical profile, its depth at base equal to about one-seventh the length of exposed culmen, the latter about as long as tarsus and middle toe with claw, decidedly less than half as long as wing; nasal groove broad, extending nearly to tip of maxilla, the latter, especially on tomia, decurved terminally; nostril sub-basal, elliptical, longitudinal. Wing large and broad, the longest primaries exceeding distal secondaries by more than one-third the length of wing; outermost primary longest,

^a *Zarapita* Mathews, Birds Australia, iii, pt. 2, May 2, 1913, 168. Type, by original designation and monotypy, *Numenius tenuirostris* Vieillot. *Zarapeta* Mathews (ibid., p. 169). (From *Zarapito*, Spanish name of a curlew; Mathews.)

^b σκολόπαξ, a large, snipe-like bird. (Mathews.)

^c Παρά, besides + *Scolopax*.

but the next only slightly shorter, the distal primaries rather strongly bowed, otherwise normal; tertials broad and rounded at tip, falling far short of tips of longest primaries. Tail nearly half as long as wing, slightly rounded; rectrices 12. Tarsus shorter than middle toe with claw (but longer than middle toe without claw), scutellate anteriorly, covered laterally and posteriorly by small hexagonal scales; lateral toes much shorter than middle toe, the outer slightly longer than the inner; no web between middle and either of the lateral toes; claws moderate or rather small, moderately curved.

Coloration.—Above brown and gray barred and blotched with blackish, the posterior half of pileum crossed by three bands of blackish and three of whitish; under parts dull whitish, narrowly barred with dusky brown.

SCOLOPAX RUSTICOLA Linnaeus.

WOODCOCK.

Adults (sexes alike).^a—General color of upper parts rusty brown, variegated by lighter transverse spots and dusky lines; scapulars and median portion of back with irregular large black spots or blotches, the former much mixed with light grayish posteriorly, the interscapular region almost continuously light grayish laterally, forming a well-defined V-shaped mark inclosing the black-spotted and rusty central area; rump lighter rusty or cinnamon narrowly barred with dusky, the upper tail-coverts similar but mostly tipped with light grayish; rectrices black, serrated along edge of outer web with rusty and broadly tipped with light gray; forehead and anterior portion of crown brownish gray; rest of pileum black, crossed by four narrow bands of light rusty or ochraceous, two through the black, the other two bounding it anteriorly and posteriorly, respectively; a wide loreal stripe of blackish brown, extending from rictus to anterior angle of eye; chin whitish; rest of under parts pale buffy grayish (nearly white medially) irregularly barred with blackish brown; primaries dusky, their outer webs with triangular spots of pale cinnamon, arranged so as to form transverse bands, the outermost quill broadly edged with white; bill flesh color in life, light brownish or horn color in dried skins, dusky terminally; iris dark brown; feet livid flesh color in life, light brownish in dried skins.

Downy young.—General color warm buff, the upper parts with large variously shaped areas of chestnut, these arranged as follows: An isolated, somewhat cuneate, spot on middle of forehead; a longitudinal stripe down median portion of rump; a longitudinal patch covering occiput and nape, and sending out, on each side,

^a As to alleged differences in coloration of the sexes see Grant, Bull. Brit. Orn. Club, xxv, 1910, 34-38, according to whom there is not only no difference between male and female nor is there any between adults and young.

two lateral branches, the first from upper part of the eye, the second from the lower part across side of neck, where continued, more or less interruptedly, across the chest; a dark chestnut (nearly black) loreal streak (from bill to eye); the other markings, blotch-like, covering back, part of wings, and anal region.

Adult male.—Wing, 182–200 (187.1); tail, 82–100 (87); exposed culmen, 70–77 (74.3); tarsus, 34.5–37.5 (36.1); middle toe, 34–39 (35.9).^a

Adult female.—Wing, 179–193 (187.7); tail, 79–91 (86.6); exposed culmen, 70–79 (74.9); tarsus, 33.5–38.5 (36.5); middle toe, 35–39 (36.9).^b

Europe and Asia, breeding in northern portions, but also in British Islands, Azores, Madeira, and Canary Islands, and in Himalaya Mountains at 10,000 feet altitude; wintering in British Islands, southern Europe, northern Africa, China, Japan, India, Ceylon, etc.; occasional in eastern North America (Newfoundland; Chambly, Quebec, Nov. 11, 1882; Chester and Northampton Counties, Pennsylvania; Shrewsbury, New Jersey; Loudoun County, Virginia).

[*Scolopax rusticola* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 146 (Sweden); ed. 12, i, 1766, 243.—BRÜNNICH, Orn. Bor., 1764, 49.—SCOPOLI, Bemerck. ed. Günther, 1770, 108.—SCHAEFFER, Mus. Orn., 1789, 53.—GMELIN, Syst. Nat., i, pt. ii, 1789, 660.—LATHAM, Index Orn., ii, 1790, 713.—TURTON, Syst. Nat., i, 1806, 396.—GRAY, Hand-list, iii, 1871, 54, no. 10352.—COUES, Key N. Am. Birds, 1872, 252.

Scolopax [rusticola] SCHAEFFER, Elem. Orn., 1774, pl. 61.

Scolopax rusticola BODDAERT, Tabl. Pl. Enl., 1783, 53 (Pl. Enl., 885).—BECHSTEIN, Orn. Taschenb., ii, 1803, 279.—TEMMINCK, Cat. Syst., 1807, 170; Man. d'Orn., 1816, 436; 2nd ed., ii, 1820, 673; iv, 1840, 429.—MEYER and WOLF, Orn. Taschenb., ii, 1810, 361.—KOCH, Syst. baier. Zool., 1816, 311.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 171.—WERNER, Atlas, Gallatores, 1827, pl. 28.—FLEMING, Brit. Anim., 1828, 105.—LESSON, Man. d'Orn., ii, 1828, 269.—ROUX, Orn. Prov., 1830, pl. 299.—MACKENZIE, Proc. Zool. Soc. Lond., 1832, 123 (Scotland).—BREHM, Handb. Haus Stubenvög., 1832, 353.—MÉNÉTRIÉS, Cat. Rais. Cauc., 1832, 51 (Lenkoran).—JENYNS, Man. Brit. Vertabr., 1835, 204.—HODGSON, Proc. Zool. Soc. Lond., 1836, 7 (Nepal).—

^a Seven specimens.

^b Six specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Europe.....	186	91	75.5	37	35
Five adult males from eastern Asia.....	187.1	87	74.3	36.1	35.9
FEMALES.					
Three adult females from Europe.....	185.7	86.7	72.5	35.3	35.7
Three adult females from Japan.....	187.7	86.6	74.9	26.5	36.9

STRICKLAND, Proc. Zool. Soc. Lond., 1836, 101 (Smyrna).—GOULD, Birds Europe, iv, 1837, pl. 319 and text; Birds Great Brit., iv, 1866, pl. 77 and text.—BONAPARTE, Geog. and Comp. List, 1838, 53.—VIGNE, Proc. Zool. Soc. Lond., 1840, 7 (Cashmere).—WEBB and BERTHELOT, Orn. Canar., 1841, 39.—BLYTH, Proc. Zool. Soc. Lond., 1842, 94 (Europe; India); Cat. Birds Mus. Asiat. Soc., 1849, 271 (Calcutta; Nilghiris).—SELYS-LONGCHAMPS, Faune Belge, 1842, 130.—SCHLEGEL, Rev. Crit., 1844, p. lxxxv; Vog. Nederl., 1854, pl. 220.—GRAY, List Birds Brit. Mus., Gallæ, 1844, 109; Cat. Mam. and Birds Nepal pres. Hodgson, 1846, 141; List Brit. Birds, 1863, 175.—YARRELL, Hist. Brit. Birds, ii, 1843, 583; 2nd ed., iii, 1845, 1; 3rd ed., iii, 1856, 1.—HEWITSON, Eggs Brit. Birds, ii, 1846, 303, pl. 85.—KJÆRBØLLING, Naumannia, 1850, Heft iii, 47 (Denmark); Danm. Fugle, 1851, pl. 37, fig. 1.—THOMPSON, Birds Ireland, ii, 1850, 235.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 142 (Madeira, breeding).—MIDDENDORFF, Reis. Sibir., Zool., 1851, 223 (Stanovoi Mountains).—BOLLE, Journ. für Orn., 1855, 313 (Spain); 1857, 338 (Canary Islands).—ADAMS, Proc. Zool. Soc. Lond., 1858, 506 (India); 1859, 189 (Cashmere).—SUNDEVALL, Svensk. Fogl., 1859, pl. 44, fig. 1.—SWINHOE, Ibis, 1860, 66 (Amoy); 1861, 343 (n. China); 1863, 415 (Foochow, China); 1875, 131 (Chefoo, China); 1877, 145 (Hakodate, Japan); Proc. Zool. Soc. Lond., 1863, 313 (China).—POWYS, Ibis, 1860, 340 (Ionian Islands).—OLPHE-GAILLARD, Journ. für Orn., 1860, 395 (Freiberg).—LINDERMAYER, Vog. Griechenl., 1860, 146.—GODMAN, Ibis, 1861, 87 (Böö, Norway); 1866, 101 (Azores); 1872, 220 (Madeira).—HINTZ, Journ. für Orn., 1861, 220 (migrations, etc.); 1863, 428; 1864, 108, 187; 1865, 237; 1866, 151; 1867, 170; 1868, 397 (Pomerania).—IRBY, Ibis, 1861, 241 (Oudh, India).—RADDE, Reis. Sibir., Vog., 1863, 333 (Bureja, Mountains, Aug.); Orn. Caucas., 1884, 41, 388 (4,000 ft., breeding).—WRIGHT, Ibis, 1864, 147 (Malta).—NORDMANN, Journ. für Orn., 1864, 375 (Finland; Lapland).—JERDON, Birds India, iii, 1864, 670.—GIGLIOLI, Ibis, 1865, 61 (Pisa, Italy); Icon. Avif. Ital., 1883, no. 304.—SALVADORI, Journ. für Orn., 1865, 314 (Sardinia); Faun. Ital., Ucc., 1871, 226.—BAIRD, Am. Journ. Sci. and Arts, xli, 1866, 25 (Newfoundland); Ibis, 1867, 282 (Newfoundland).—HOLZ, Journ. für Orn., 1866, 374 (Gottland); 1868, 123 (Gottland).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 292 (Shrewsbury, New Jersey).—WHITELY, Ibis, 1867, 206 (Hakodate, Japan).—DRAKE, Ibis, 1867, 428 (Tangier, Morocco).—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 299.—DROSTE, Journ. für Orn., 1868, 42 (Borkum); 1869, 344 (Faroe Islands); Vogelw. Borkum, 1869, 240.—COLLETT, Norges Fugle, 1868, 51.—TRISTRAM, Ibis, 1868, 327 (Palestine).—BEAUVAN, Ibis, 1868, 391 (Thatone, Burma; Sikhim, India).—COUES, Proc. Essex Inst., v, 1868, 293 ("Newfoundland to New York"); Check List, 1873, no. 413; Am. Nat., x, 1876, 372 (Loudoun Co., Virginia, 1873); Forest and Stream, vi, April 27, 1876, 180 (Loudoun Co., Virginia).—TURNBULL, Birds E. Penn. and N. J., 1869, 55; Phila. ed., 44 (Shrewsbury, New Jersey, 1869).—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 206 (Madeira).—ELWES and BUCKLEY, Ibis, 1870, 331 (Turkey).—GODMAN, Azores, 1870, 35, 41; Ibis, 1872, 220 (Madeira; Canary Islands).—STEVENS, Birds Norfolk, ii, 1870, 272.—FRITSCH, Birds Europe, 1870, pl. 37, fig. 10; Journ. für Orn., 1871, 386 (Bohemia).—HOMEYER, Journ. für Orn., 1870, 426 (e. Siberia).—GURNEY (J. H., Jr.), Ibis, 1871, 299 (Algeria).—SAUNDERS, Ibis, 1871, 389 (s. Spain).—GRAY (R.), Birds West Scotl., 1871, 308.—HARTING, Handb. Brit. Birds, 1872, 50.—FEILDEN, Zoologist, 1872, 3249 (Faroes).—BROOKS, Journ. Asiat. Soc. Bengal, xli, 1872, 86 (Cashmere).—MEVES, Oefv. k. Vet.-Ak. Förh. Stockholm, 1871, 777 (Archangel).—SHELLEY, Birds Egypt, 1872, 247.—TACZANOWSKI,

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- S[colopax] rusticola* GRAY, Gen. Birds, iii, 1847, 584.—RIDGWAY, Man. N. Am. Birds, 1887, 149.
- Scolopax rusticola* NAUMANN, Vög. Deutschl., viii, 1837, 361, pl. 211.—NORDMANN, in Démid. Voy. Russ. Merid., iii, 1840, 252.—MÜHLE, Beitr. Orn. Griechenl., 1844, 108.—REICHENBACH, Gallatores, 1850, pl. 68, figs. 552, 553.—KAPLECK, Naumannia, 1852, 79 (habits).—TOBIAS, Journ. für Orn., 1853, 315 (Oberlausitz, Germany).—SCHILLING, Journ. für Orn., 1853, 374 (Rügen).—BREHM, Journ. für Orn., 1854, 82 (n. e. Africa).—HARTLAUB, Journ. für Orn., 1854, 159 (Ceylon).—KOENIG, Journ. für Orn., 1854, 253 (descr. albino).—BOLLE, Journ. für Orn., 1855, 176 (Canary Islands).—WIESE, Journ. für Orn., 1855, 514 (Pomerania); 1860, 219 (e. Prussia).—MÜLLER, Journ. für Orn., 1856, 230 (Provence).—GLOGGER, Journ. für Orn., 1861, 289 (notes).—SCHLEGEL, Dier. Nederl. Vogels, 1861, pl. 22, figs. 4, 4a; Mus. Pays-Bas, iv, no. 27 (Scolopaces), 1864, 2.—TRISTRAM, Proc. Zool. Soc. Lond., 1864, 452 (Palestine); Fauna and Flora Palestine, 1884, 132.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 177.—STEJNEGER, Journ. für Orn., 1871, 124 (s. Tyrol).—SWINHOE, Proc. Zool. Soc. Lond., 1871, 407 (China, winter); Ibis, 1877, 145 (Hakodate,

- Japan; crit.); 1882, 120 (Kandahar, Afghanistan).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 472 (Ceylon).—PALMÉN, Finlands Fogl., 1873, 226.—BROOKE, Ibis, 1873, 340 (Sardinia).—HEUGLIN, Orn. N. O.-Afrika, ii, pt. 1, 1873, 1208.—HANCOCK, Birds Northumb. and Durham, 1874, 102.—FALLON, Ois. Belg., 1875, 178.—DAVID and OUSTALET, Ois. Chine, 1877, 475.—DANFORD, Ibis, 1878, 33 (Asia Minor).—SIEBOHM, Ibis, 1879, 26 (Hakodate, Japan); 1882, 224 (Astrakhan), 382 (Archangel, Russia); 1883, 30 (Caucasus); 1884, 262 (centr. China); 1886, 127 (geog. range); 1891, 378 (w. Szechuen, China); 1892, 23 (Helgoland); Hist. Brit. Birds, iii, 1885, 231.—WHARTON, Ibis, 1879, 454 (crit. nomencl.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no 524); Nom. N. Am. Birds, 1881, no. 524.—SCULLY, Ibis, 1881, 588 (Gilgit, n. India).—COUES, Check List, 2nd ed., 1882, no. 606.—IRBY, Ibis, 1883, 187 (Santander, Spain); Orn. Straits Gibralt., 2nd ed., 1895, 276.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 320; Ibis, 1884, 389 (Pyrennes); Man. Brit. Birds, 1889, 553.—MARSHALL, Ibis, 1884, 424 (Chamba, n. w. Himalayas; habits).—BAIRD, BEWER, and RIDGWAY, Water Birds N. Am., i, 1884, 180.—BLAKISTON, Amended List Birds Japan, 1884, 11.—WHITEHEAD, Ibis, 1885, 42 (Corsica).—DIXON, Ibis, 1885, 86 (St. Kilda).—SALVADORI, Elenco Ucc. Ital., 1886, 231.—GIGLIOLI, Avif. Ital., 1886, 402; Avif. Ital., 1st Resoc., 1889, 609; 2nd Resoc., 1890, 600; 3rd Resoc., 1891, 516.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1888, 459 (Korea).—KOENIG, Journ. für Orn., 1890, 465 (Madeira); 1893, 89 (Tunis).—SHARPE, Rep. 2nd Yarkand Miss., Avee, 1891, 143; Cat. Birds Brit. Mus., xxiv, 1896, 671; Handb. Brit. Birds, iii, 1896, 295, pl. 85.—STYAN, Ibis, 1891, 330, 504 (lower Yangste River, China); 1893, 436 (Hainan).—HARTWIG, Journ. für Orn., 1893, 6 (Madeira).—MACPHERSON, Vertebr. Faun. Lakel., 1892, 369.—DE LA TOUCHE, Ibis, 1892, 497 (Foochow and Swatow, China).—MEADE-WALDO, Ibis, 1893, 204 (Canary Islands).—MARTIN and ROLLIN, Vertébr. Sauv. l'Indre, 1894, 198.—POYNTING, Eggs Brit. Birds, pt. i, 1895, 103, pl. 23.—POPHAM, Ibis, 1898, 515 (Krasnoyarsk and Yeneseiak, Yenesei River, Siberia).—OGILVIE-GRANT, Bull. Brit. Orn. Club, xxv, 1910, 34-38 (crit. as to supposed sexual differences in coloration).
- Sc[olopax] rusticula* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxviii, 217.
- Sc[olopax] rusticula* COUES, Key N. Am. Birds, 2d ed., 1884, 620.
- [Scolopax] rusticula* SHARPE, Hand-list, i, 1899, 166.
- Rusticola vulgaris* VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 348 (new name for *Scolopax rusticola* "Lath.").
- Scolopax major* (not of Gmelin, 1789) LEACH, Syst. Cat. Mam., etc., Brit Mus., 1816, 31, 32 (Devonshire and Farrington, England).
- Scolopax pinetorum* BREHM, Vög. Deutschl., 1831, 613 (Germany).
- Scolopax sylvestris* BREHM, Vög. Deutschl., 1831, 614 (Germany).
- Sc[olopax] sylvestris* BREHM, Vogelf., 1855, 304.
- Rusticola sylvestris* MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 105.
- Rusticola europæa* LESSON, Traité d' Orn., 1831, 555 (new name for *Scolopax rusticola* Linnaeus).
- Scolopax indicus* HODGSON, Journ. Asiat. Soc. Bengal, vi, 1837, 490 (India).
- Scolopax communis* SELBY, Cat. Gen. and Subgen. Aves, 1840, 43 (England).
- Scolopax torquata* BREHM, Vogelf., 1855, 304 (Germany).
- Sc[olopax] orientalis* BREHM, Vogelf., 1855, 304 ("Morgenlande").
- [Scolopax] scoparia* BONAPARTE, "Orn. Rom. 1820"; Compt. Rend., xliii, 1856, 579 (nomen nudum).
- Scolopax platyura* BREHM, Isis, 1845, 353.
- [Scolopax] platyura* BONAPARTE, Compt. Rend., xliii, 1856, 579.

Genus PHILOHELA Gray.

Rubicola "Viell"[ot] JAMESON, Wilson's Amer. Orn., iii, 1831, 98. (Type, by monotypy, *Scolopax minor* Gmelin.)

Microptera (not of Gravenhorst, 1802) NUTTALL, Man. Birds U. S. and Can., Water Birds, 1834, 192. (Type, by original designation, *Rusticola minor* = *Scolopax minor* Gmelin.)

Rusticola (not of Vieillot, 1816) BONAPARTE, Geog. and Comp. List, 1838, 52. (Type, *Scolopax minor* Gmelin.)

Philohela GRAY, List Gen. Birds, 1841, 90. (Type, by original designation, *Scolopax minor* Gmelin.)

Medium-sized Scolopacinae (wing 118–143 mm.), with tibia completely feathered, tarsus shorter than middle toe with claw, and three outer primaries abbreviated and conspicuously narrowed.

Bill straight, tapering in lateral but not in vertical profile, its depth at base equal to about one-seventh the length of exposed culmen, the latter longer than tarsus and middle toe with claw; nasal groove broad, except anteriorly, extending nearly to tip of maxilla, which is decurved, especially on under (tomial) side; nostrils subbasal, broadly elliptical, longitudinal. Wing ample, much rounded, the longest primaries exceedingly distal secondaries by less than one-third the length of wing; fourth and fifth primaries (from outside) longest, the three outermost ones decidedly shorter (of these the third longest, the first shortest), conspicuously reduced in width, with terminal portion strongly incurved; tertials falling considerably short of tips of longest primaries, broad, rounded at tips. Tail less than half as long as wing, rather strongly rounded; rectrices 14. Tarsus about as long as middle toe without claw, scutellate anteriorly, covered laterally and posteriorly with small scales; lateral toes much shorter than middle toe, the outer slightly longer than the inner; claw of hallux very short, conical, not extending beyond the toe; no web between toes at base.

Coloration.—Above brown and pale gray, barred with buff and blotched with black; posterior half of pileum black crossed by three narrow bands of buff; under parts immaculate buff and cinnamon-brownish.

Range.—Eastern North America. (Monotypic.)

PHILOHELA MINOR (Gmelin).

AMERICAN WOODCOCK.

Adults (sexes alike).—Head, neck, and under parts pale cinnamon or dull cinnamon-buff, overlaid or suffused with grayish, the occiput black crossed by four narrow bands or bars of pale cinnamon; a brownish black or dusky loreal streak (from bill to eye) and an oblique streak of the same across cheeks; general color of upper parts mottled cinnamon, intermixed or suffused with grayish, the back and scapulars with large, irregular black spots, the outer webs of exterior

row of both scapulars and interscapulars nearly plain light gray, producing when the plumage is properly arranged, four tolerably well-defined broad stripes of that color; primaries brownish gray; tail brownish black, sharply tipped with light gray, darker on upper surface, paler (sometimes nearly white) on the lower; under parts pale grayish cinnamon or dull cinnamon-buff, brighter or more rufescent laterally and on under wing-coverts, the under tail-coverts with dusky shaft-streaks; bill pale brownish (dull grayish flesh color in life), becoming dusky terminally; iris dark brown; legs and feet pale brownish (dull grayish flesh color in life).

Downy young.—Above pale ochraceous-buff, beneath deeper ochraceous-buff or light pinkish cinnamon; a line from bill to eye, a large patch covering forehead and fore part of crown, another on occiput, and a narrow mark back of eye with an oblique one beneath it, dark chestnut-brown or dark burnt-umber, the upper parts with several large, irregular patches of the same.

Adult male.—Wing, 118.5–128 (123.5); tail, 54–63 (59.6); exposed culmen, 60–66 (63.7); tarsus, 28.5–31 (29.5); middle toe, 30–34 (31.2).^a

Adult female.—Wing, 129–143 (134.8); tail, 58–65 (61.4); exposed culmen, 64–74 (70.8); tarsus, 30–34 (32.6); middle toe, 29.5–36.5 (34.1).^a

Temperate eastern North America; breeding from Gulf coast (southern Louisiana to northern Florida) northward to Nova Scotia (Bay of Fundy), southern Quebec, Maine (Lake Umbagog; Houlton), northern Michigan (Mackinac Island; Ausable Valley), southern Manitoba, etc., westward to edge of Great Plains, in North and South Dakota, Nebraska, and Kansas, or even (more rarely) to eastern Colorado (Timnath; near Boulder; Jefferson and Park Counties);

^a Ten specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Three adult males from New York (March, August).....	122.7	58.3	64.5	29.5	31
Five adult males from Maryland, District of Columbia, and Virginia (Sept., Nov.).....	123.4	60	64	29.2	31.5
One adult male from South Carolina (Jan.).....	123	62	60	30	32
One adult male from Florida (Jan.).....	127	59	64	31	31.5
FEMALES.					
One adult female from Massachusetts (Oct.).....	130	63.5	64	30	29.5
One adult female from Pennsylvania (March 23).....	139	63.5	71	32	35
Two adult females from Maryland and District of Columbia (March 29; Oct.).....	136.2	59.5	72.5	33	35.5
Four adult females from Virginia (Nov., Dec.).....	132.7	60.7	71.6	33	34.7
One adult female from South Carolina (Jan.).....	143	63	71	32	33.5
One adult female from Omaha, Nebraska (May 4).....	133	60	71	34	33.5

occasional or casual (in summer) northward to Newfoundland (St. George Bay), Labrador (Gaspé), Prince Edward and Anticosti Islands, northern Ontario (near Kearney; Bracebridge), Keewatin, and Saskatchewan; wintering from New Jersey (rarely Massachusetts), the Ohio Valley, southern Missouri, etc., southward to southern Florida, Gulf coast, and western Texas (Concho County); accidental in Bermudas (1 specimen, Oct., 1842) and in Jamaica(?).

[*Scolopax*] *minor* Gmelin, Syst. Nat., i, pt. ii, 1789, 661 (New York; based on *Little Woodcock* Latham, Synopsis Birds, iii, pt. 1, 1785, 131; Pennant, Arctic Zool., ii, 463).—LATHAM, Index Orn., ii, 1790, 714.—TURTON, Syst. Nat., i, 1806, 396.—DENNY, Proc. Zool. Soc. Lond., 1847, 39 (Jamaica).

Scolopax minor WILSON, Am. Orn., vi, 1812, 40, pl. 48, fig. 2.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 331.—AUDUBON, Orn. Biog., iii, 1835, 474, pl. 268, fig. 1.—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 296 (Franklin Co., Indiana).—SCHLEGEL, Mus. Pays-Bas, iv, no. 27 (*Scolopaces*), 1864, 3.—CASTLE, Am. Nat., ii, 1868, 663 (alighting in trees).—FOWLER, Am. Nat., iv, 1870, 762 (Essex Co., Mass.; habits).—SEEBOHM, Ibis, 1886, 127 (crit.) Geog. Distr. Charadriidae, 1887, pp. xxviii, 504.

[*Scolopax*] *minor* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 76 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [158].—MAXIMILIAN, Journ. für Orn., 1859, 93 (Pennsylvania; Missouri).—NEWTON (A and E.), Handb. Jamaica, 1881, 116.

Rusticola minor VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 351; Gal. Ois., ii, 1825, 242.—LESSON, Traité d'Orn., 1831, 555.—BONAPARTE, Geog. and Comp. List, 1838, 52; Compt. Rend., xliii, 1856, 579.—PEABODY, Rep. Orn. Mass., 1839, 373.—GOSSE, Birds Jamaica, 1847, 354.—THOMPSON, Nat. Hist. Vermont, 1853, 106, fig.—MARCH, Proc. Ac. Nat. Sci. Phila., 1864, 68 (Jamaica).

Rusticola minor WAILES, Rep. Geol., etc., Miss., 1854, 322.

Microptera minor NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 194.

Philohela minor GRAY, List Gen. Birds, 1841, 90; List Birds Brit. Mus., Grallae, 1844, 112; Gen. Birds, iii, 1846, pl. 157, fig. 2.—REICHENBACH, Grallatores, 1850, pl. 68, fig. 554.—WOODHOUSE, in Sitgreaves' Rep. Zuffi and Col. R., 1853, 101 (Indian Territory).—KENNICOTT, Trans. Ills. Agric. Assoc., i, 1855, 587 (Illinois).—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Lake Superior).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 709.—BAIRD, Cat. N. Am. Birds, 1859, no. 522.—BARNARD, An. Rep. Smithsonian Inst. for, 1860 (1861), 438 (Chester Co., Pennsylvania).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Bay of Fundy, breeding).—VERRILL, Proc. Essex Inst., iii, 1862, 152 (Oxford Co., Maine, breeding).—HAYDEN, Rep. U. S. Geol. Surv., 1862, 174 (Loup River, Nebraska).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Mass.).—MCLWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—COUES, Proc. Essex Inst., v, 1868, 293 (New England); Check List, 1873, no. 412; 2d ed., 1882, no. 605; Birds Northwest, 1874, 472.—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 293 (vicinity New York City).—ALLEN, Mem. Bost. Soc. N. H., i, 1868, 541 (w. Iowa); Bull. Mus. Comp. Zool., ii, 1871, 355 (e. Florida).—TURNBULL, Birds E. Penn. and N. J., 1869, 39 (Phila. ed., 30).—MAYNARD, Proc. Bost. Soc. N. H., xiv, 1872, 283 (Lake Umbagog, Maine, breeding).—SCOTT, Proc. Bost. Soc. N. H., xv, 1872, 227 (West Virginia); Auk, vi, 1889, 156 (Panassoffkee Lake, s. Florida, 1 spec., Jan.); ix, 1892, 12 (Jamaica), 212 (Calcoosahatchie River, s. w. Florida, rare winter resident).—SNOW, Birds Kansas, 1873, 10 (rare).—MERRIAM, Am. Nat., viii, 1874, 9 (Aiken, South Carolina);

Bull. Nutt. Orn. Club, vi, 1881, 234 (Lewis Co., New York, breeding).—BREWSTER, Ann. Lyc. N. Y., xi, 1875, 146 (Ritchie Co., West Virginia); Bull. Nutt. Orn. Club, iv, 1879, 44 (descr. young stages); Proc. Bost. Soc. N. H., xxii, 1883, 386 (Gaspé, Labrador; Fox Bay, Anticosti Island); Auk, iii, 1886, 102 (near Asheville, North Carolina, breeding); xi, 1894, 291–298 (notes, song-flight, etc.).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 445 (New England).—REID, Zoologist, 1877, 476 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 232 (Bermudas, 1 spec., Oct., 1842).—MATNARD, Birds E. N. Am., 1879, 373.—ROBERTS and BENNER, Bull. Nutt. Orn. Club, v, 1880, 18 (Grant Co., Minnesota, June 13).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 525); Nom. N. Am. Birds, 1881, no. 525; Bull. Nutt. Orn. Club, vii, 1882, 22 (near Wheatland, Knox Co., Indiana, breeding).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 151 (near Grand Falls and Fairfield, New Brunswick, 1 spec., Houlton, Maine, a few breeding).—BAIRD, BREWER, and RIDGWAY, Water birds N. Am., i, 1884, 183.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 246 (Labrador).—BICKNELL, Auk, ii, 1885, 261 (notes).—AGERSBERG, Auk, ii, 1885, 286 (s. e. South Dakota, breeding).—SETON, Auk, iii, 1886, 151 (Red River Valley, Winnipeg, and Portage la Prairie, Manitoba).—SMITH (H. G., Jr.), Auk, iii, 1886, 285 (near Denver, Colorado, Aug. 12 and Oct., 1885).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 228; 3d ed., 1910, p. 110.—FOX, Auk, iii, 1886, 320 (Roane Co., Tennessee, March).—LLOYD, Auk, iv, 1887, 185 (middle Concho Co., w. Texas, fall and winter, rare).—SENNETT, Auk, iv, 1887, 241 (Cranberry and summit of Roan Mountain, w. North Carolina, breeding).—CORY, Auk, iv, 1887, 311 (West Indian references and localities; descr.); Birds West Ind., 1889, 232; Cat. West Ind. Birds, 1892, 92 (Jamaica?).—CHAPMAN, Auk, v, 1888, 270 (Gainesville, Florida, Dec.).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 498 (Winnipeg, York Factory, Oak Point and Portage la Prairie, Manitoba).—DWIGHT, Auk, x, 1893, 8 (Prince Edward Island).—WAYNE, Auk, x, 1893, 204 (Mt. Pleasant, South Carolina; about 10,000 killed Dec. 27 to Jan. 2, 1892).—WHITE, Auk, x, 1893, 223 (Mackinac Island, n. Michigan, summer resident).—ALLEN (F. H.), Auk, xii, 1895, 90 (Cape Breton, Nova Scotia, Aug.); xxv, 1908, 59 (Sherburne, s. Vermont).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 679.—MACKAY, Auk, xi, 1894, 84 (no fall flight at Oakham, Massachusetts in 1893).—ELLIOT, N. Am. Shore Birds, 1895, 43, pl. 8.—COOKE, Birds Colorado, 1897, 64 (Denver, Aug. 12, 1885, Oct., 1885, and June, 1895; near Boulder, fall of 1887; near Fort Lupton); Bull. 44, Col. Agric. Exp. Sta., 1898, 158 (Timnath, Colorado, breeding; Jefferson and Park Counties, rare summer res.).—BEYER, Proc. La. Soc. Nat. for 1897–99 (1900), 94 (Louisiana, resident, breeding).—FISHER (A. K.), Yearbook U. S. Dep. Agric. for 1901 (1902), 447–454, pl. 63, figs. 37, 38 (geog. range, habits, etc.).—FLEMING, Auk, xviii, 1901, 36 (near Kearney and Bracebridge, n. Ontario).—MACKAY, Auk, xx, 1903, 210 (early spring and Dec. dates for Massachusetts).—RILEY, Auk, xxi, 1904, 384 (evanescent color of eggs).—WILLIAMS (R. W.), Auk, xxi, 1904, 452 (Leon Co., n. w. Florida, resident).—ALLISON, Auk, xxi, 1904, 475 (Baton Rouge Parish, Louisiana, winter res.).—WOOD and FROTHINGHAM, Auk, xxii, 1905, 46 (Au Sable Valley, Michigan, breeding).—WILSON (B. H.), Wilson Bull., no. 54, 1906, 2 (Scott Co., Iowa, breeding).—WAYNE, Auk, xxiii, 1906, 58 (Capers I., South Carolina, breeding; as to color of eggs fading).—TAVERNER and SWALES, Wilson Bull., no. 60, 1907, 84 (Point Pelee, Ontario, breeding).—ARNOW, Auk, xxv, 1908, 220 (Satilla R., St. Marys, Georgia, breeding).—JONES (L.), Wilson Bull., xxi, 1909, 125 (Lorain Co., n. Ohio; habits, etc.).—HENDERSON, Univ.

- Colo. Stud. Zool., vi, 1909, 227 (Boulder Co., Colorado, rare summer res.).—SCLATER, Revised List Birds Jam., 1910, 22 (Jamaica, winter visitant).—ISELY, Auk, xxix, 1912, 42 (Sedgwick Co., Kansas).—HOWE, Auk, xxx, 1913, 115 (St. Georges Bay, Newfoundland).—BAYNARD, Auk, xxx, 1913, 243 (Alachua Co., Florida, resident, breeding).—MOUSLEY, Auk, xxxiii, 1916, 63 (Hatley, Quebec, rare in May).
- [*Philohela*] *minor* GRAY, Hand-list, iii, 1871, 54, no. 10355.—COUES, Key N. Am. Birds, 1872, 252.—SHARPE, Hand-list, i, 1899, 167.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 75.
- P[hilohela] minor* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 383 (Illinois); Man. N. Am. Birds, 1887, 150.—COUES, Key N. Am. Birds, 2d ed., 1884, 619.
- Microptera americana* AUDUBON, Synopsis Birds N. Am., 1839, 250 (new name for *Scolopax minor* Gmelin); Birds Am., 8vo ed., vi, 1843, 15, pl. 352.—GIRAUD, Birds Long Is., 1844, 266.—PRATTEN, Trans. Ills. Agric. Soc., i, 1855, 608 (Illinois).—WILLIS, An. Rep. Smithson. Inst. for 1858 (1859), 285 (Nova Scotia, common).—BLAND, An. Rep. Smithson. Inst. for 1858 (1859), 288 (Bermudas).
- M[icroptera] americana* PUTNAM, Proc. Essex Inst., i, 1856, 218 (Essex Co., Mass.).
- Rusticola americana* JARDINE, Contr. Orn., 1849, 84 (Bermudas, rare in autumn).—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, 1 spec., Oct.).—MARTENS, Journ. für Orn., 1859, 218 (Bermudas).
- Philohela americana* COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina).

Genus GALLINAGO Koch.^a

- Gallinago* ^b KOCH, Syst. baier. Zool., 1816, 312. (Type, by tautonymy, *G. media* Koch=*Scolopax gallinago* Linnæus.)
- Telmatias* ^c BOIE, Isis, 1826, 980. (Type, *Scolopax gallinago* Linnæus.)
- Pelorychus* KAUP, Natürl. Syst., 1829, 119. (Type, *Scolopax brehmii* Kaup.)
- Pelorhynchus* SHARPE, Cat. Birds Br. Mus., xxiv, 1896, 616 (emendation).
- Enakus* KAUP, Natürl. Syst., 1829, 121. (Type, *Scolopax sabini* Vigors.)
- Odura* ^d MEVES, Proc. Zool. Soc. Lond., 1858, 201. (Type as designated by Mathews, 1913, *Scolopax gallinago* Linnæus.)

^a The following generic names may, some of them at least, not be synonyms of *Gallinago* as properly restricted; but the determination of this question would involve a careful study of the many species of snipe from all parts of the earth, which is, manifestly, impracticable in connection with the present work.

- Nemoricola* HODGSON, Journ. Asiat. Soc. Bengal, vi, 1837, 491. (Type, by tautonymy, *Gallinago nemoricola* Hodgson.)
- Homoptilura* GRAY, List. Gen. Birds, 1840, 70. (Type, *Scolopax undulata* Boddaert.)
- Xylocota* BONAPARTE, Icon. Fauna Ital., i, 1839 (fasc. 25), text to pl. [43]. (Type, by original designation, *Scolopax paludosa* Gmelin=*Scolopax undulata* Boddaert.) (Ξύλον, wood; κότω, to be angry at, to bear a grudge.) (Richmond.)
- Spilura* BONAPARTE, Compt. Rend., xliii, 1856, 579. (Type, as designated by Bonaparte, id. p. 1023, *Scolopax horefieldi* Gray=*Scolopax stenura* Bonaparte.) (σπίλος, spot; οὐρά, tail.)
- Ditelmatias* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 19, 13, 282. (Type, by original designation, *Gallinago hardwicki* Gray.) (Δίς, double+*Telmatias*.)
- Chubbia* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 291, in text. (Type, by original designation, *Gallinago stricklandi* Gray.)

^b From *Gallina*, a hen. (Mathews.)

^c τέλμα, a pool, swamp+ias. (Mathews.)

^d ὠδή, a song; οὐρά, tail. (Mathews.)

Medium-sized Scolopacinae (wing about 117–146 mm., in North American species) with lower portion of tibia naked, tarsus shorter than middle toe with claw, culmen longer than middle toe with claw, and color-pattern of pileum longitudinal (two broad lateral stripes of blackish and a narrow median stripe of buff.

Bill much longer than head (usually as long as or longer than tarsus and middle toe), straight, slightly tapering in lateral but not in vertical profile, with base of culmen ascending; in vertical profile with edges parallel nearly to tip, where depressed and slightly expanded, the expanded portion minutely punctulate and with a median shallow depression or groove; nasal groove distinct, extending to or slightly beyond base of distal punctulate portion; depth of bill at base equal to about one-seventh to one-tenth the length of exposed culmen; nostril basal or subbasal (scarcely in contact with loreal feathering), rather small, longitudinal, elliptical or linear. Wing ample, the longest primaries exceeding distal secondaries by nearly half the length of wing, the tips of tertials falling considerably short of tips of longest primaries; outermost primary longest, but sometimes scarcely longer than second. Tail between one-third and one-half as long as wing, more or less rounded; rectrices 14–16,^b more or less bowed or incurved, with rounded tips. Tibia with lower portion bare for a greater or less extent; tarsus longer than middle toe without claw (but shorter than middle toe with claw), scutellate anteriorly and posteriorly, but scutella of planta tarsi much smaller than those of the acrotarsium; lateral toes much shorter than middle toe, the outer decidedly longer than the inner one; claws moderately developed, moderately curved and sharp; no web between toes at base.

Homoscolopax MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 291, in text. (Type, by original designation, *Gallinago imperialis* Sclater.) (Ὅμῶς, the same, like+*Scolopax*.)

Neospilura MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 293, in text. (Type, by original designation, *Gallinago solitaria* Hodgson.) (Νέος, new+*Spilura*.)

Eugallinago MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 294, in text. (Type, by original designation, *Gallinago macrodactyla* Bonaparte.) (Εὖ, well+*Gallinago*.)

Odurella MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 294, in text. (Type, by original designation, *Gallinago brasiliensis* Swainson.) (*Odura* (ὄδῶ, a song; ὄδῶ, tail)+*ella*.)

Macrodera MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 294, in text. (Type, by original designation, *Gallinago nobilis* Sclater.) (Μακρός, large+*Odura*.)

Subspilura MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 295, in text, 300. (Type, by original designation, *Gallinago megala* Swinhoe.) (Sub, under+*Spilura*.)

^b In North American species, at least.

Coloration.—Pileum with two blackish and three pale (more or less buffy) stripes, two of the latter over each eye; upper parts spotted and blotched with black and cinnamon-brown, the scapulars and interscapulars broadly edged with buff; tail partly cinnamon-rufous; axillars and under wing-coverts white, more or less barred with gray or dusky; sides and flanks broadly barred.

Range.—Northern hemisphere in general. (Several species.^a)

KEY TO THE NORTH AMERICAN SPECIES OF GALLINAGO.

- a. Larger, with much larger feet (tarsus 35.5–40, middle toe, without claw, 34–39); exposed culmen shorter than middle toe without claw; tibia feathered nearly to tibio-tarsal joint; wing-coverts conspicuously and abruptly tipped with white; abdominal region with at least concealed bars of dusky, usually distinctly barred; four outer rectrices (on each side) predominantly white, without cinnamonous tinge; outermost primary with outer web not white. (Europe, Asia, etc.; accidental in North America.) *Gallinago media* (p. 161).
- aa. Smaller, with much smaller feet (tarsus 27.5–33.5, middle toe, without claw, 28–32.5); exposed culmen longer than middle toe with claw; tibia extensively naked below; wing-coverts neither conspicuously nor abruptly (sometimes not at all) tipped with white; abdominal region wholly immaculate white; only one lateral rectrix (on each side) predominantly white, all the rectrices tinged, more or less, with cinnamon-rufous; outermost primary with outer web white.
 - b. Rectrices usually 14, the lateral ones broader; axillars and proximal under-wing-coverts nearly immaculate white; sides and flanks more or less narrowly barred with dusky. (Europe, Asia, etc.; Greenland.) *Gallinago gallinago* (p. 165).
 - bb. Rectrices usually 16, the lateral ones narrower; axillars and proximal under-wing-coverts broadly and regularly barred with dusky; sides and flanks more broadly barred with dusky. (North America, migrating southward.)
..... *Gallinago delicata* (p. 171).

GALLINAGO MEDIA (Latham).

DOUBLE SNIFE.

Much heavier than *G. gallinago* and *G. delicata*, with larger legs and feet (exposed culmen shorter than middle toe without claw), tibia feathered nearly to the tibio-tarsal joint, and under parts much more extensively and heavily barred with dusky.

Adults (sexes alike).—Pileum with a narrow median stripe of pale buff and two much broader lateral stripes of sooty black, more or less streaked (narrowly) with pale buffy brown or cinnamon, these dark lateral stripes becoming much narrower on forehead; a very broad superciliary stripe of pale buff or dull buffy whitish, involving sides of forehead and extending to sides of nape, this pale stripe more or less flecked, minutely, with dusky; nape and hindneck deeper buff, broadly streaked with dusky, the rest of head and neck pale buff, rather sparsely streaked or flecked with dusky and relieved by a more or less "solid" loreal stripe of dusky, extending from lateral base of maxilla to anterior angle of eye, and an oblique stripe or

^a How many species are referable to this genus as properly restricted can not be stated until the limits of the genus are accurately determined.

patch of dusky from lower part of suborbital region to end of auricular region, this last, however, sometimes indistinct or even obsolete; chin and median portion of upper throat, sometimes also lower throat and anterior portion of malar region, immaculate; prevailing color of back and scapulars black, but this much broken by broad edgings of brownish buff and bars or U-shaped lines of cinnamon; lesser wing-coverts dusky brownish gray, broadly tipped with white and more or less barred with pale brown or brownish buffy, especially on proximal coverts, the anterior lesser coverts, however, nearly plain dusky brownish gray; larger middle coverts, greater coverts, and primary coverts dusky, abruptly and rather broadly tipped with white, the secondaries similar but with white tips much narrower and less abrupt; primaries dusky, narrowly and indistinctly margined with white at tips; upper rump brownish gray, the feathers tipped or terminally margined with pale gray or grayish white; lower rump and upper tail-coverts pale buffy brown, irregularly marked with black; middle rectrices black with distal portion, abruptly, reddish cinnamon (saya brown) passing into white terminally, the white tip separated from the cinnamon-colored portion by a curved sub-terminal bar of black, the cinnamonous portion sometimes with a few irregular narrow markings of black; lateral pair of rectrices white, immaculate for the greater part of inner web and terminal third (more or less) of outer web, the proximal portion of outer web with several spots of dusky; intermediate rectrices intermediate in color between the middle and lateral pairs; foreneck and chest brownish buffy or pale vinaceous-buff, irregularly spotted and streaked with dusky; rest of under parts dull white, the breast more or less barred (irregularly) with dusky, the sides and flanks with more regular and much larger dusky bars; abdomen sometimes immaculate or nearly so superficially (always with concealed bars, however?); under tail-coverts buffy, irregularly marked with black; axillars and under wing-coverts barred with white and grayish dusky, the bars of nearly equal width and more or less >-shaped, especially on axillars; bill brownish (in dried skins), becoming much darker terminally; legs and feet brownish (in dried skins).

Young.—"Much more rufous than adults, and having the black of the upper parts more uniform, the lateral edges to the scapular feathers not so distinct; the inner greater coverts and inner secondaries regularly barred with black and rufous, the bars being of about equal width; the white tips to the wing-coverts not so distinct and slightly tinged with buff; the sides of the face and hind-neck much more rufous than in the adults, and the white upper breast also showing dusky circular bars; the white outer tail-feathers also barred with dusky brown." ^a

^a Sharpe, Cat. Birds Brit. Mus., xxiv, 629, 630.

Downy young.—"Covered with down of an ashy-fulvous, inclining to rufous here and there on the crown and center of the back, as well as on the wings; a very broad eyebrow of isabelline white, like the sides of the face; a line of black in the center of the forehead, extending on to the crown; lores crossed by a line of black, with several lines of black on the side of the face; the sides of the back black, and a black patch on each side of the flanks; under surface of body orange-buff, with a black patch on the lower throat; the center of the breast and abdomen isabelline whitish."

Adult male.—Wing, 136–145 (140.2); tail, 49.5–57.5 (54.3); exposed culmen, 61–68 (65.2); tarsus, 35.5–38.5 (36.7); middle toe, 34–37 (34.9).^a

Adult female.—Wing, 133.5–145.5 (138.7); tail, 54.5–57 (55.8); exposed culmen, 62–68 (64.5); tarsus, 37.5–40 (38.5); middle toe, 35–39 (36.5).^b

Europe and western Asia; breeding from Prussia to Yenesei River, Siberia, and northward to beyond latitude 71° N.; wintering in British Islands, southern Europe, and throughout Africa, and eastward to Persia; accidental in northeastern North America ("Hudson Bay," 1 specimen).

[*Scolopax*] *media* LATHAM, Gen. Synopsis Birds, Suppl., i, 1787, 292 (Lancashire, England).^c

Scolopax media MEYER and WOLF, Taschenb., ii, 1810, 362.—VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 358 (Provence; Italy).—ROUX, Orn. Prov., 1830, pl. 300.—NAUMANN, Vög. Deutschl., viii, 1836, pl. 208.

Gallinago media GERINI,^c Orn. Meth. Dig., iv, 1773, 59, pl. 1546.—IRBY, Orn. Straits Gibraltar, 1875, 175.—FINSCH, Ibis, 1877, 58, 61 (River Ob, Siberia).—DUBOIS, Faun. Ill. Vertébr. Belg., Ois., ii, 1894, 223, pl. 209.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 366; Check List, 3rd ed., 1910, 111.

[*Scolopax*] *major* GÜELIN, Syst. Nat., i, pt. ii, 1789, 661 (founded on *Scolopax media* Frisch, etc.).—LATHAM, Index Orn., ii, 1790, 714 (Siberia; England).

^a Six specimens.^b Three specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Four adult males from Europe (3) and Africa (1).....	140	53.5	66.9	36.9	35.2
Two adult males from Siberia	140.7	56	62	36.5	34.5
FEMALES.					
Two adult females from Europe and Africa.....	139.5	56.5	65.7	38.7	37.2
One adult female from Siberia	137	54.5	62	38	35

^c Sharpe (Cat. Birds Brit. Mus., xxiv, 1896, 626) cites as the first reference to this name: "Frisch, Vorst. Vög. Deutschl., pl. 228 (1763: teste Dresser)." Frisch and Gerini are both non-binomial authors.

- Scolopax major* TEMMINCK, Cat. Syst., 1807, 171; Man. d'Orn., 1815, 438; 2d ed., 1820, 675.—WERNER, Atlas, Grall., 1827, pl. 29.—FLEMING, Brit. Anim., 1828, 105.—CUVIER, Règne Anim., i, 1829, 522.—LESSON, Traité d'Orn., 1831, 556.—NAUMANN, Vög. Deutschl., vii, 1836, 291.—GOULD, Birds Europe, iv, 1837, pl. 320 and text.—YARRELL, Brit. Birds, ii, 1843, 597.—SCHLEGEL, Rev. Crit., 1844, p. lxxxvi; Dier. Nederl., Vogels, 1861, pl. 22, fig. 5; Vog. Nederl., 1854, pl. 221.—HEWITSON, Eggs Brit. Birds, ii, 1846, 306, pl. 86, fig. 1.—THOMPSON, Birds Ireland, ii, 1850, 257.—MACGILLIVRAY, Brit. Birds, iv, 1852, 364.—KJÆRBØLLING, Orn. Dan. 1851, pl. 37, fig. 2.—SUNDEVALL, Svensk. Fogl., 1860, pl. 44, fig. 3.—RADDE, Reis. Sibir., Vög., 1863, 333 (Irkutsk, Sept.).—STEVENSON, Birds Norfolk, ii, 1870, 209.—GRAY (R.), Birds West Scotl., 1871, 310.—PALMÉN, Finl. Fogl., 1873, 231.—SAXBY, Birds Shetl., 1874, 200.—FALLON, Ois. Belg., 1875, 179.—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 310 (lower Petchora River, Russia).—BOGDANOW, Birds Caucas., 1879, 162; Consp. Av. Imp. Ross., fasc. i, 1884, 103.—SEEBOHM, Ibis, 1882, 224 (Astrakhan), 382 (Archangel, Russia); 1883, 31 (Caucasus); 1892, 23 (Helgoland); Hist. Brit. Birds, iii, 1885, 237; Geog. Distr. Charadriidæ, 1887, 482.—GÄTKE, Vogelw. Helgoland, 1891, 504.
- Gallinago major* KOCH, Syst. baier. Zool., 1816, 313.—LEACH, Syst. Cat. Mam. etc. Brit. Mus., 1816, 31.—STEPHENS, Shaw's Gen. Zool., xii, 1824, 51, pl. 8.—BONAPARTE, Geog. and Comp. List, 1838, 52.—SELYS-LONGCHAMPS, Faun. Belge, 1842, 129.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 109; Cat. Brit. Birds, 1863, 172.—GOULD, Birds Great Brit., iv, 1863, pl. 78 and text.—SCHLEGEL, Mus. Pays.-Bas. Scolopaces, 1864, 7.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 181.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 294.—FARTSCH, Vog. Eur., 1870, pl. 37, fig. 7.—SALVADORI, Faun. Ital., Ucc., 1871, 227; Elenco Ucc. Ital., 1886, 232.—HARTING, Handb. Brit. Birds, 1872, 51.—GURNEY, in ANDERSON, Birds Damara-Land, 1872, 312.—SHELLEY, Birds Egypt, 1872, 248.—HEUGLIN, Orn. N. O.-Afr., ii, Abth. i, 1873, 1199.—DRESSER, Birds Europe, vii, 1876, 631, pl. 541.—BLANFORD, East. Persia, ii, 1876, 282.—SEEBOHM, Ibis, 1879, 157 (Siberia; habits).—ATRES, Ibis, 1880, 268 (Potchefstroom, Transvaal).—BOCAGE, Orn. Angola, 1881, 474.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 165.—GIGLIOLI, Icon. Avif. Ital., 1883, no. 305; Avif. Ital., 1886, 403; Avif. Ital., 1st Resoc., 1889, 614; 2d Resoc., 1890, 652; 3d Resoc., 1891, 412.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 336; Man. Brit. Birds, 1889, 555.—SHARPE, ed. Layard's Birds S. Afr., 1884, 678; Cat. Birds Brit. Mus., xxiv, 1896, 626 (Hudson Bay; etc.).—TRISTRAM, Fauna and Flora Palestine, 1884, 132.—HARVIE-BROWN and BUCKLEY, Vertebr. Fauna Caithness, etc., 1887, 217; Vertebr. Fauna Outer Hebrides, 1888, 131; Vertebr. Fauna Argyll and Inner Hebrides, 1892, 175.—EVANS (W.), Ibis, 1891, 80 (nesting habits).—BUCKLEY and HARVIE-BROWN, Vertebr. Fauna Orkney Is., 1891, 212.—FRIVALDSKY, Avif. Hung., 1891, 148.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 46.—REISER, Orn. Balcanica, 1894, 163.—REICHENOW, Vög. Deutsch-Ost-Afrika, 1894, 43.—IRBY, Orn. Straits Gibraltar, 2d ed., 1895, 277.—COUES, Auk, xiv, 1897, 209 (Hudson Bay, *fide* Sharpe).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 105 (Check List no. 230.1).
- [*Gallinago*] *major* GRAY, Hand-list, iii, 1871, 52, no. 10328.—SHARPE, Hand-list, i, 1899, 165.
- Telmatias major* BREHM, Vög. Deutschl., 1831, 615.—REICHENBACH, Grall., 1850, pl. 68, fig. 555.—COLLETT, Norges Fugle, 1868, 50.—DROSTE, Vogelw. Borkum, 1869, 230.—RADDE, Orn. Caucas., 1884, 41, 387 (breeding at 7,000 ft.).
- A[*scalopax*] *major* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxviii, 216

- Ascalopax major* MÜHLE, Beitr. Orn. Griechenl., 1844, 108.—HEUGLIN, Syst. Ueb. 1856, 64 (lower Egypt).—LINDERMAYER, Vög. Griechenl., 1860, 145.
- Scolopax paludosa* RETZIUS, Faun. Suec., 1800, 173.
- Scolopax palustris* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 173 (n. Russia; Siberia).
- **Scolopax leucurus* SWAINSON, Fauna Bor.-Am., ii, 1831, 501 (Hudson Bay; type now in coll. Brit. Mus.).—NUTTALL, Man. Orn. U. S. and Can., Water birds, 1834, 617.
- Gallinago leucurus* GRAY, Gen. Birds, iii, June, 1846, pl. 157.
- Telmatias nisoris* BREHM, Vög. Deutschl., 1831, 616.
- Gallinago montagui* BONAPARTE, Geog. and Comp. List, 1838, 52 (Suffolk, England).
- Scolopax solitaria* (not of Hodgson) MACGILLIVRAY, Man. Brit. Birds, ii, 1842, 102.
- Telmatias brachyptera* BREHM, Vogelf., 1855, 305.
- Telmatias uliginosa* BREHM, Vogelf., 1855, 305.

GALLINAGO GALLINAGO (Linnaeus).

SNIFE.

Adults (sexes alike).—Pileum with a narrow median (sometimes more or less broken) stripe of light buff and two broad lateral stripes of sooty black, the latter much contracted on forehead and sometimes minutely flecked or streaked with pale brown or cinnamon; a broad superciliary stripe of buff, extending from sides of forehead to nape, the buffy color deepening posteriorly, where sometimes almost cinnamon; a loreal stripe of dusky or dusky brown, extending from lateral base of maxilla to anterior angle of eye; a narrow, broken, postocular dusky streak, and an oblique stripe of dusky brown extending from middle of malar region upward and backward to end of auricular region; hindneck and sides of neck brownish buffy (more or less deep) broadly streaked with dusky, the foreneck similar but with the buffy color paler and streaks massed into a more or less distinct stripe on each side; chin, throat, and upper portion of malar region immaculate dull buffy white or very pale buff; chest and upper breast brownish buffy (nearly vinaceous-buff) irregularly streaked and otherwise marked with grayish brown, the lower breast paler, with markings more transverse; rest of under parts white, the sides and flanks regularly barred with dusky, the under tail-coverts vinaceous-buff or cinnamon-buff irregularly barred or otherwise marked with dusky; scapulars and interscapulars black, their outer webs broadly and abruptly margined with pale buff to deep brownish buff, the black portion more or less broken by irregular small spots or bars of cinnamon or cinnamon-brown, these assuming a more or less U-shaped form on posterior scapulars; anterior lesser wing-coverts nearly uniform dusky brownish gray, the posterior ones, together with middle coverts broadly but not abruptly tipped with pale brownish buffy; greater coverts, primary coverts, and secondaries dusky, tipped with white; primaries dusky, the outermost with outer web mostly white; rump deep brownish gray, the feathers

tipped with pale gray or grayish white; upper tail-coverts pale buffy brown, irregularly streaked and barred with black; middle rectrices black, their distal portion, abruptly, deep cinnamon or sayal brown with a subterminal lunulate bar of black and a terminal margin of buff or cinnamon-buff, the cinnamon area usually with a few small irregular markings of black; lateral rectrices dull buffy whitish with inner half of inner web dusky broadly tipped with white and with a dusky subterminal bar—the intermediate rectrices intermediate in coloration between that of the middle and lateral pairs; axillars and under wing-coverts white, sometimes immaculate but usually with a few small dusky grayish markings, the coverts near the outer edge of the wing with a few transverse spots or bars of dusky; bill dusky terminally, brownish in dried skins (grayish blue in life)^a basally; legs and feet brownish (in dried skins); iris dark brown; legs and feet light brownish in dried skins, pale greenish blue in life.^a

Young.—"Differs from the adult in being more rufous, especially on the throat and neck. The black markings on the neck are more broken up and mottled by rufous bars, and the pale outer bands [stripes] along the scapulars are not so wide."

Downy young.—"Covered with down of a chestnut color, interspersed with black along the back, and prettily variegated with silvery tips to the feathers [sic]; below the eye is a whitish streak, bordered with lines of black; under surface of body bright chestnut, with a black spot on the throat and a black line across the foreneck."^b

Adult male.—Wing, 123–132 (126.5); tail, 53.5–61 (57.2); exposed culmen, 60–70.5 (64.4); tarsus, 27.5–31.5 (29.9); middle toe, 28–32 (29.8).^c

Adult female.—Wing, 122–129.5 (126); tail, 50.5–62.5 (55.9); exposed culmen, 62–73.5 (66.6); tarsus, 28.5–31 (29.8); middle toe, 29.5–31.5 (30.6).^d

Europe and northern Asia, north to about latitude 70° N.; breeding in Iceland, Faroes, British Islands, and eastward to and including Siberia, on Caucasus range at 7,000 feet, in Turkestan, etc.; wintering

^a According to Macgillivray.

^b Sharpe, Cat. Birds Brit. Mus., xxiv, 638, 639.

^c Seventeen specimens.

^d Ten specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Four adult males from Europe (including one from Egypt).....	128.1	57.6	66.2	30.5	30.7
Thirteen adult males from eastern Asia.....	126	57	63.8	29.8	29.7
FEMALES.					
Three adult females from Europe.....	126.8	56.3	66.8	29	30.5
Seven adult females from eastern Asia.....	125.7	55.7	65.2	30.1	30.6

southward to northern Africa, southern Arabia, India, Malay Peninsula, Andaman Islands, Ceylon, Philippines, etc.; occasional in southern Greenland; casual in Bermudas (two specimens, Dec. 24 and 29, 1847).

[*Scolopax*] *gallinago* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148 (Sweden); ed. 12, i, 1766, 244.—GMELIN, Syst. Nat., i, pt. ii, 1789, 662.—LATHAM, Index Orn., ii, 1790, 715.—TURTON, Syst. Nat., i, 1806, 397, part.

Scolopax gallinago BODDAERT, Tabl. Pl. Enl., 1783, 53 (Pl. Enl., pl. 883).—TEM-MINCK, Cat. Syst., 1807, 170; Man. d'Orn., 1815, 439; 2nd ed., ii, 1820, 676.—VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 355.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 174.—WERNER, Atlas, Grallatores, 1827, pl. 30.—FLEMING, Brit. Anim., 1828, 106.—ROUX, Orn. Prov., 1830, pl. 301.—LESSON, Traité d'Orn., 1831, 556.—JENYNS, Man. Brit. Vertebr., 1835, 205.—NAUMANN, Vög. Deutschl., viii, 1836, 310, pl. 209.—STRICKLAND, Proc. Zool. Soc. Lond., 1836, 101 (Smyrna).—GOULD, Birds Europe, iv, 1837, pl. 321, fig. 2, and text.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 103; Hist. Brit. Birds, iv, 1852, 368.—YARRELL, Hist. Brit. Birds, ii, 1843, 603; 2nd ed., iii, 1845, 25; 3rd ed., iii, 1856, 31.—SCHLEGEL, Rev. Crit., 1844, 86; Vog. Nederl., 1854, pl. 222; Dier. Nederl. Vogels, 1861, pl. 22, figs. 6, 6a.—HEWITSON, Eggs Brit. Birds, ii, 1846, 307, pl. 86, fig. 2.—HOLM, Naturhist. Tidsskr., 2nd ser., ii, 1848, 485 (Faroe Islands).—JARDINE, Contr. Orn., 1849, 86 (Bermudas, 2 specs., Dec., 1847).—HURDIS, in Jardine's Contr. Orn., 1850, 13 (Bermudas).—MIDDENDORFF, Reis. Sibir., Zool., 1851, 224 (Boganida, breeding; Stanovoi Mountains).—KJÆRBØLLING, Danm. Fugle, 1851, pl. 37, fig. 3.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland).—MEVES, Proc. Zool. Soc. Lond., 1858, 179 (noises made by rectrices during flight).—TAYLOR, Ibis, 1859, 53 (Egypt).—SALVIN, Ibis, 1859, 36 (e. Atlas Mountains).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 228 (Bermudas).—POWYS, Ibis, 1860, 342 (Ionian Islands).—GLOGGER, Journ. für Orn., 1861, 221, 315 (migrations).—RADDE, Reis. Sibir., Vög., 1863, 337 (Tareinor, May).—PREEN, Journ. für Orn., 1864, 65 (descr. young).—WRIGHT, Ibis, 1864, 147 (Malta).—SMITH, Ibis, 1868, 455 (Portugal).—DROSTE, Journ. für Orn., 1869, 344 (Faroe Islands).—HOMER, Journ. für Orn., 1870, 427 (e. Siberia).—STEVENSON, Birds Norfolk, ii, 1870, 305.—BLANFORD, Geol. and Zool. Abyssinia, 1870, 432 (Lake Asbangi, winter).—GRAY (R.), Birds West Scotl., 1871, 312.—PALMÉN, Finl. Fogl., 1873, 236.—SEVERTZOV, Turkest. Jevotn., 1873, 69 (Turkestan, breeding); Ibis, 1883, 72 (Pamir range).—FALLON, Ois. Belg., 1875, 180.—DANFORD, and HARVIE-BROWN, Ibis, 1875, 423 (Transylvania).—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 309 (lower Petchora River, Russia; habits).—DRESSER, Ibis, 1876, 330 (Turkestan).—ANDERSON, Rep. Zool. Exped. West Yunan, 1878, 681 (Kabwet, Jan.; Bhamo, Feb.).—BOGDANOW, Birds Caucas., 1879, 162.—SEEBOHM, Ibis, 1882, 224 (Astrakhan), 382 (Archangel, Russia); 1883, 31 (Caucasus); 1884, 267 (Kinkiang); 1886, 140 (monogr.); 1892, 23 (Helgoland); Hist. Brit. Birds, iii, 1884, 241; Geog. Distr. Charadriidæ, 1888, pp. xxvii, 484, fig.; Birds Japanese Emp., 1890, 346.—DIXON, Ibis, 1885, 86 (St. Kilda).—IRBY, Key List. Brit. Birds, 1888, 46.—LILFORD, Ibis, 1889, 340 (Cyprus).—SHARPE, Ibis, 1890, 144, 285 (Borneo).—GÄTKE, Vogelw. Helgoland, 1891, 505.—CAMPBELL, Ibis, 1892, 246 (Korea).

Scolopax *gallinago* MARTENS, Journ. für Orn., 1859, 219 (Bermudas; crit.).

Telmatias gallinago BOIE, Ibis, 1826, 979.—BREHM, Vög. Deutschl., 1831, 620; Journ. für Orn., 1854, 82 (n. e. Africa).—REICHENBACH, Grallatores, 1850, pl. 69, figs. 558, 559.—HINTZ, Journ. für Orn., 1861, 220 (migrations, etc.);

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- Ascalopax gallinago* MÜHLE, Beitr. Orn. Griechenl., 1844, 108.—JÄCKEL, Journ. für Orn., 1855, 401 (Bayern).—HEUGLIN, Syst. Ueb., 1856, 63.—LINDER-MAYER, Vög. Griechenl., 1860, 145.—BLASIUS (R.), Journ. für Orn., 1863, 67 (Braunschweig).—NORDMANN, Journ. für Orn., 1864, 375 (Finland; Lapland).
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- Scolopax (Gallinago) gallinago* TEMMINCK and SCHLEGEL, Fauna Japonica, Aves, 1847, 112.
- [*Gallinago*] *gallinago* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 93.
- Gallinago gallinago* SCLATER and HARTLAUB, Proc. Zool. Soc. Lond., 1881, 174 (Socotra).—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 110 (Bering Island; crit., synonymy, etc.); Proc. U. S. Nat. Mus., x, 1887, 128 (Bering Island).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 229; 3rd ed., 1910, p. 110.—HARTERT, Ibis, 1892, 514 (e. Prussia).—REISER, Orn. Balcanica, 1894, 163.—OGILVIE-GRANT, Ibis, 1894, 522 (n. Luzon Island, Philippines).—ELLIOT, N. Am. Shore Birds, 1895, 45, text fig. of tail.—SHARPE, Handb. Brit. Birds, iii, 1896, 211; Cat. Birds Brit. Mus., xxiv, 1896, 633.—OGILVIE-GRANT, Novit. Zool., vii, 1900, 269 (s. Arabia).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands); Ibis, 1904, 423 (Lena River, Siberia).—POGGE, Journ. für Orn., 1902, 385 (n. e. China).—HARTERT and OGILVIE-GRANT, Novit. Zool., xii, 1905, 105 (Flores and San Miguel islands, Azores).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 387 (Copper Island, Kamchatka, April, May).
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- Gallinago caelestis* PEARSON and BIDWELL, Ibis, 1894, 234 (Bodo and Lofodens, n. Norway, breeding).—POPHAM, Ibis, 1897, 103 (Yenesei River, Siberia).

- Gallinago media* (not of Frisch, 1763 or Latham, 1787) LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 31.—STEPHENS, Shaw's Gen. Zool., xii, 1824, 54.—SYKES, Proc. Zool. Soc. Lond., 1832, 163 (Deccan).—GRAY, Cat. Mam., etc., Nepal pres. Hodgson, 1846, 141; List Brit. Birds, 1863, 173.—REINHARDT, Journ. für Orn., 1854, 441 (Greenland); Ibis, 1861, 11 (Greenland, frequent).—TRISTRAM, Ibis, 1860, 79 (Sahara).—NEWTON, in Baring-Gould's Iceland, 1863, 413.—MORE, Ibis, 1865, 438 (breeding range in British Islands).—GODMAN, Ibis, 1866, 101 (Azores); Azores, 1870, 35, 41.—WHITELY, Ibis, 1867, 206 (Japan).—ELWES and BUCKLEY, Ibis, 1870, 331 (Turkey).—SHELLEY, Ibis, 1871, 311 (Egypt); Birds Egypt, 1872, 249.—HARTING, Handb. Brit. Birds, 1872, 51.—FEILDEN, Zoologist, 1872, 3249 (Faroe Islands, breeding).—BROOKE, Ibis, 1873, 340 (Sardinia).—IRBY, Orn. Straits Gibralt., 1875, 175.—WHARTON, Ibis, 1876, 27 (Corsica).—COUES, Check List, 2nd ed., 1882, no. 607.—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 233 (Bermudas, 2 specs., Dec. 24 and 29, 1847).
- G [allinago] media* GRAY, Gen. Birds, iii, 1847, 583.—COUES, Key N. Am. Birds, 2nd ed., 1884, 621.
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- Scolopax brehmi* JARDINE, Contr. Orn., 1849, 134, pl. 40.
- Telmatias brehmi* BREHM, Vög. Deutschl., 1831, 618.—REICHENBACH, Grallatores, 1850, pl. 68, fig. 556.
- Gallinago brehmi* BONAPARTE, Faun. Ital. Ucc., 1832, Introduct., 12, fasc. xxv, pl. 43; Geog. and Comp. List, 1838, 52; Compt. Rend., xliii, 1856, 579.
- Gallinago brehmii* GRAY, List Brit. Birds, 1863, 174.
- Gallinago scolopacina*, var. *brehmi* FRIVALDSKY, Av. Hung., 1891, 149.
- Scolopax sabinii* VIGORS, Trans. Linn. Soc., xiv, 1825, 557, pl. (Queens Co., Ireland).—FOX, Newcastle Mus., 1827, 117.—JARDINE and SELBY, Illustr. Orn., 1827, pl. 27.—GOULD, Birds Europe, iv, 1837, pl. 321, fig. 1. and text.—MACGILLIVRAY, Hist. Brit. Birds, iv, 1852, 377.—LILFORD, Col. Figs. Brit. Birds, pt. xxvii, 1893.
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- Gallinago sabinii* BONAPARTE, Geog. and Comp. List, 1838, 52; Compt. Rend., xliii, 1856, 579.—GRAY, List Brit. Birds, 1863, 173.—HARTING, Handb. Brit. Birds, 1872, 52.—HANCOCK, Birds Northumberl. and Durham, 1874, 113 (crit.).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 166.
- G [allinago] sabinii* GRAY, Gen. Birds, iii, 1846, 583.

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Gallinago faeroensis BREHM, Naumannia, 1855, 291.

Telmatias stagnatilis BREHM, Vög. Deutschl., 1831, 618 (middle Germany).

Telmatias septentrionalis BREHM, Vög. Deutschl., 1831, 619 (Iceland).

Gallinago septentrionalis BREHM, Naumannia, 1855, 291.

Telmatias peregrina BREHM, Vög. Deutschl., 1831, 621 (Greenland).

Scolopax peregrina TEMMINCK, Man. d'Orn., iv, 1840, 435.

Gallinago peregrina BREHM, Naumannia, 1855, 291.

[*Scolopax*] *pygmea* BAILLON, Mém. Soc. d'Em. d'Abbev., for 1833, 1834, 71 (Abbeville, France).

(?) [*Gallinago*] *uniclavus* HODGSON, Journ. Asiat. Soc. Bengal, vi, 1837, 492 (Nepal, India).

(?) *Gallinago uniclava* SWINHOE, Ibis, 1860, 66 (Amoy); 1861, 56 (Canton), 343 (Takow; Peking); 1862, 259 (Foochow).—TACZANOWSKI, Journ. für Orn., 1874, 325 (Durasun); 1875, 255 (Ussuriland); Bull. Soc. Zool. France, i, 1876, 257 (Darasun and mouth of the Ussuri, e. Siberia; crit.); viii, 1883, 340 (Kamchatka).

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Gallinago scolopacina SELYS-LONGCHAMPS, Faune Belge, 1842, 129.—RÜPPELL, Syst. Ueb., 1845, 126 (Lower Egypt).—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 272 (Calcutta).—ADAMS, Proc. Zool. Soc. Lond., 1859, 189 (Cashmere).—IRBY, Ibis, 1861, 241 (Oudh, India).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 314 (China); 1871, 407 (China; Formosa; Hainan); Ibis, 1863, 415 (Formosa); 1870, 362 (Hainan); 1874, 163 (Hakodate, Japan).—GOULD, Birds Great Brit., iv, 1863, pl. 79 and text.—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 4.—FILIPPI, Viagg. Persia, 1865, 345.—BEAVAN, Ibis, 1867, 333 (Andaman Islands).—DRAKE, Ibis, 1867, 428 (Tangier).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 183.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 296.—FRITSCH, Vog. Eur., 1870, pl. 37, fig. 8.—FINSCH and HARTLAUB, Vög. Ostafrika, 1870, 771.—SALVADORI, Faun. Ital. Ucc., 1871, 227.—GURNEY (J. H., jr.), Ibis, 1871, 299 (Algeria).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 473 (Ceylon).—HUME, Nests and Eggs Ind. Birds, 1873, 586 (Cashmere).—LLOYD, Ibis, 1873, 417 (Kattiawar, India).—TACZANOWSKI, Journ. für Orn., 1873, 106 (e. Siberia); 1881, 187 (Askold Island, e. Siberia); Proc. Zool. Soc. Lond., 1887, 610 (Seoul, Korea); 1888, 468 (Korea; crit.).—HEUGLIN, Orn. N. O.-Afrika, ii, Abth. i, 1873, 1201 (Abyssinia, in winter).—SAXBY, Birds Shetlands, 1874, 201.—BLYTH and WALDEN, Birds Burma, 1875, 156.—WALDEN, Trans. Zool. Soc. Lond., ix, 1875, 235 (Luzon, Philippines).—BLANFORD, East. Persia, ii, 1876, 282.—

- DAVID and OUSTALET, Ois. Chine, 1877, 478.—TWEEDDALE, Proc. Zool. Soc. Lond., 1877, 703 (Luzon).—BLAKISTON and PRYER, Ibis, 1878, 222 (Japan); Birds Japan, 1882, 114.—PRJEVALSKY, in Rowley's Orn. Misc., iii, 1878, 90 (Koko-nor, March; Lake Hanka, April; Hoang-ho Valley; Kansu, Sept.).—SEEBOHM, Ibis, 1879, 27 (Hakodate; crit.), 156 (Yenesei, Siberia; crit.).—LEGG, Birds Ceylon, 1880, 121.—SCULLY, Ibis, 1881, 588 (Gilgit, n. India).—KELHAM, Ibis, 1882, 16 (Malay Peninsula).—MURRAY, Vertebr. Faun. Sind, 1884, 240.—BLAKISTON, Amended List Birds Japan, 1884, 12.—MARSHALL, Ibis, 1884, 424 (Chamba, n. w. Himalayas).—SHARPE, Sci. Res. 2nd Yarkand Miss., Aves, 1891, 144.—MADARÁSZ, Erläut. Ausst. Ungar. Vogelf., 1891, 111.—FRIVALDSKY, Av. Hung., 1891, 149.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 46.—MARTIN and ROLLIN, Vertebr. Sauv. l'Indre, 1894, 200.
- [*Gallinago*] *scolopacina* GRAY, Hand-list, iii, 1871, 52, no. 10329.
- [*Gallinago*] *scolopacina* SWINHOE, Ibis, 1873, 426 (Shanghai).
- [*Gallinago*] *sakhalina* (not *Scolopax sakhalina* Vieillot?) GRAY, Gen. Birds, iii, 1846, 583.
- [*Gallinago*] *burka* GRAY, Gen. Birds, iii, 1846, 583 (ex Bonaparte, manuscript?).
- [*Gallinago*] *burka* BONAPARTE, Compt. Rend., xliii, 1856, 579 (ex Latham; cites *uniclavata* HODGS. and *media* HODGS. as synonyms).
- Gallinago burka* SWINHOE, Proc. Zool. Soc. Lond., 1863, 314 (China); 1871, 407 (China, Formosa, and Hainan, in winter).
- Gallinago migratoria* BREHM, Naumannia, 1855, 291 (cites *Telmatias gallinago* BOIE.)
- Gallinago brachypus* BREHM, Naumannia, 1855, 291.
- Telmatias brachypus* BREHM, Vogelf., 1855, 307.
- Gallinago robusta* BREHM, Naumannia, 1855, 291.
- Telmatias robusta* BREHM, Vogelf., 1855, 306.
- Gallinago pétényi* BREHM, Naumannia, 1855, 291.
- Telmatias pétényi* BREHM, Vogelf., 1855, 306.
- Gallinago lacustris* BREHM, Naumannia, 1855, 291.
- Telmatias lacustris* BREHM, Vogelf., 1855, 307.
- Telmatias salicaria* BREHM, Vogelf., 1855, 306 (Germany).
- [*Gallinago*] *japonica* BONAPARTE, Compt. Rend., xliii, 1856, 579.
- Gallinago stenura* (not *Scolopax stenura* Kuhl) CASSIN, Orn. Perry's Japan Exped., ii, 1857, 227.
- Gallinago latipennis* HARTLAUB, Orn. West-Afrika, 1857, 239 (Gambia).
- Gallinago vulgaris* DUBOIS, Pl. Col. Ois. Belg., 1858, pl. 182.
- Gallinago russata* GOULD, Birds Great Brit., iv, 1863, in text to pl. 79 (Dartmoor, England); Introd. 1873, p. cxviii.
- Gallinago wilsoni* (not *Scolopax wilsoni* Temminck) SWINHOE, Ibis, 1875, 454 (Hakodate, Japan).—SEEBOHM, Ibis, 1879, 27 (crit.).—BLAKISTON, Amended List Birds Japan, 1884, 38.

GALLINAGO DELICATA (Ord).

WILSON'S SNIBE.

Very similar to *G. gallinago* but rectrices 16 instead of 14, the lateral pair much narrower and more distinctly barred, and axillars and under wing-coverts heavily and regularly barred with dusky or deep slate color.

Adults (sexes alike).—Pileum with a narrow median stripe of pale buff or dull buffy white and two broad lateral stripes of sooty black more or less streaked or flecked with pale buffy brown, the dark

lateral stripes becoming much narrower, and sometimes less distinct, on forehead; a superciliary stripe of pale brownish buff or dull buffy whitish, this very broad above lores, much narrower above auricular region, where narrowly streaked with dusky, the anterior portion minutely flecked (more or less) with the same; a broad loreal stripe, extending from bill to anterior angle of eye, of dusky brown, more or less broken by pale buffy brown spots or flecks; malar, suborbital and auricular regions, chin and upper throat dull brownish white, flecked, except on last two, with dusky grayish brown, the auricular region crossed, diagonally, from about middle of malar region to end of auriculars, by a stripe of dusky intermixed, more or less, with light buffy brown or cinnamon; neck, all round, pale brownish buffy, rather broadly streaked with dusky grayish brown, the streaks darker on hindneck, paler (light fuscous or hair brown) on foreneck, where the streaks are sometimes coalesced into two indistinctly defined parallel stripes; chest pale brownish buffy or very pale buffy brown, transversely spotted or clouded with light grayish brown; rest of under parts (except under tail-coverts) white, immaculate medially, the sides and flanks broadly barred with dusky grayish brown, the bars nearly as wide as the white interspaces; under tail-coverts buff, with irregular, partly V-shaped, markings of blackish; axillars very regularly barred with dusky slate and white, the dusky bars rather wider than the white interspaces; under wing-coverts similarly but less regularly barred; scapulars and inter-scapulars black, broadly and sharply edged with buff, or buff and white, these buffy or whitish edgings forming four conspicuous stripes, the black, especially on scapulars, more or less broken by an irregular spotting or marbling of buffy brown (sayal brown or wood brown); wing-coverts grayish brown or dusky, tipped with dull whitish, the tertials black, narrowly margined with white (except in worn plumage) and irregularly barred with buffy brown (wood brown); secondaries deep brownish gray with broad terminal margins of white; primaries and primary coverts darker brownish gray or dusky, margined at tips with paler (primary coverts and proximal primaries sometimes narrowly tipped with white), the outer web of outermost primary white or broadly edged with white; upper rump grayish brown or dusky, the feathers tipped with grayish white; lower rump and upper tail coverts light brownish buffy, barred with dusky, the bars broader, more irregular, and nearly black on lateral coverts; tail dusky for about proximal two-thirds, the dusky more or less broken distally by spots of brownish gray and buffy, the terminal third cinnamon rufous or mikado brown passing into whitish terminally and crossed by a subterminal bar of black—the outermost rectrix, however, without cinnamon-rufous, but broadly barred with dull whitish and dusky, the latter predominating basally, where the paler bars do not

reach the shaft; bill blackish for terminal third (approximately), greenish gray (in life) basally; iris dark brown; legs and feet pale greenish gray (in life), or pale gray washed with yellowish green on scutella of acrotarsium and toes.

Adult male.—Wing, 121–130 (127.1); tail, 52–63 (57.1); exposed culmen, 57.5–67.5 (62.9); tarsus, 27.5–32 (30.4); middle toe, 28.5–32 (30.3).^a

Adult female.—Wing, 117.5–135 (125.2); tail, 50–58.5 (54.5); exposed culmen, 58.5–73.5 (65.4); tarsus, 28–33.5 (30.8); middle toe, 28–32.5 (30.6).^b

North and Middle America and northern South America; breeding from northern Alaska, northern Mackenzie, central Keewatin, and northern Ungava (Fort Chimo) southward to northern California (southward in higher mountains to Tejón Pass and northern Los Angeles County), Utah (Parleys Park), southern Colorado (Twin Lakes; Estes Park; San Juan, Yuma, and Boulder counties), northern Iowa, northeastern Illinois (Lake and Cook counties), northwestern Indiana (Kankakee marshes), Pennsylvania, and New Jersey; wintering from northern California, New Mexico, Arkansas, North Carolina, etc., southward throughout Mexico, Central America, West Indies and northern South America, as far as Colombia (Medellin, Antioquia), Venezuela (Caracas), British Guiana (Maroni River), Tobago, and Brazil (Rio Negro, Amazonas; Bahia; Rio de Janeiro); sometimes wintering locally, as far northward as Washington, Montana, Nebraska, Illinois, and Nova Scotia; occasional in Bermudas (Oct. to May); accidental in Hawaiian Islands (Naalehu, one specimen) and British Islands.

Scolopax gallinago (not of Linnaeus) WILSON, Am. Orn., vi, 1812, 18, pl. 47, fig. 1.—ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., 1837, 193 (Columbia River).—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 231.—DENNY, Proc. Zool. Soc. Lond., 1847, 39.

S[scolopax] gallinago BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 77 (crit.); Obs. Nomencl. Wilson's Am. Orn., 1826, [159].

^a Eighteen specimens.

^b Twenty specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from eastern United States (migrants).....	126.7	55.5	61.6	30.4	30.5
Four adult males from Alaska (breeding).....	126.7	61.5	62.6	29.9	29.1
Six adult males from western United States, Lower California, and Sonora (migrants).....	127.7	56.2	64.7	30.6	30.4
FEMALES.					
Twelve adult females from eastern United States (migrants)...	124.2	53.8	63.9	30.6	30.6
Eight adult females from western United States and Sonora (migrants).....	126.7	55.5	67.3	31	30.7

- Scolopax delicata* ORD, ed. Wilson's Am. Orn., ix, 1825, p. ccxviii (Pennsylvania).
- Gallinago delicata* AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 230; 3rd ed., 1910, p. 110.—TURNER, Contr. N. H. Alaska, 1886, 146 (St. Michaels, etc.; habits).—EVERMANN, Auk, iii, 1886, 91 (Ventura Co., California).—SETON, Auk, iii, 1886, 151 (Manitoba, summer resident).—ANTHONY, Auk, iii, 1886, 164 (Washington Co., Oregon).—SCOTT, Auk, iii, 1886, 386 (Arizona).—FERRARI-PERREZ, Proc. U. S. Nat. Mus., ix, 1886, 178 (Valley of Mexico).—WELLS, Proc. U. S. Nat. Mus., ix, 1886, 628 (Grenada).—NELSON, Rep. N. H. Coll. Alaska, 1887, 100 (habits, etc.).—TOWNSEND, Proc. U. S. Nat. Mus., x, 1887, 198 (near s. base Mt. Shasta, July 25), 233 (Humboldt Bay, California).—CORY, Auk, iv, 1887, 96 (Martinique), 311 (West Indian localities and references); Birds West Ind., 1889, 232; Cat. West Ind. Birds, 1892, 92.—ZELEDÓN, Anal. Mus. Nac. C. R., i, 1888, 129 (San Jose, Costa Rica).—CHERRIE, Auk, 1892, 329 (San Jose, Costa Rica, Oct.-Feb.).—ELLIOT, N. Am. Shore Birds, 1895, 50, pl. 10, text fig. of tail.—ULREY and WALLACE, Proc. Ind. Ac. Sci., 1895, 150 (Wabash Co., Indiana, Dec., Jan., also midsummer).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 642 (Medellin, Colombia; Caracas, Venezuela; Maroni River, British Guiana; St. Vincent; Grenada; Nevis; Rio Negro, Amazonas, Bahia, and Rio Janeiro, Brazil; etc.).—COOKE, Birds Col., 1897, 64 (breeding in San Juan Co., and at Twin Lakes, Colorado).—DEANE, Auk, xvi, 1899, 270 (Kankakee marshes, n. w. Indiana, and Lake and Cook Counties, v. e. Illinois, breeding).—BIGELOW, Auk, xix, 1902, 28 (Cape St. Francis, n. e. Labrador).—HENSHAW, Birds Hawaiian Is., 1902, 94 (Naalehu, 1 spec.).—SALVIN and GODMAN, Biol. Contr.-Am., Aves, iii, 1903, 392.—BONHOTE, Ibis, 1903, 302 (New Providence Island, Bahamas, Dec.; habits).—ROBERTS, in Wilcox's Hist. Becker Co., Minn., 1907, 167 (breeding).—HENDERSON, Univ. Col. Studies Zool., vi, 1909, 227 (Boulder Co., Colorado, a few breeding).—HARLOW, Auk, xxvi, 1909, 305 (Center Co., Pennsylvania, Jan. 27).—VERRELL (A. E. and A. H.), Proc. Ac. Nat. Sci. Phila., 1909, 356 (San Lorenzo and Sanchez, Santo Domingo).—CARRIKER, Ann. Carnegie Mus., vi, 1910 423 (Costa Rica).—SAUNDERS, Auk, xxviii, 1911, 34 (Gallatin Co., Montana, breeding).—WIDMANN, Auk, xxviii, 1911, 311 (Estes Park, Colorado, July).—ARNOLD, Auk, xxix, 1912, 75 (Newfoundland, breeding).—FLEMING, Auk, xxx, 1913, 226 (near Toronto, Ontario, breeding).—MAILLIARD, Oondor, xvi, 1914, 261 (Tejon Pass, California, breeding).—LINCOLN, Proc. Col. Mus. N. H., 1915, 5 (Yuma Co., Colorado, resident).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 49 (breeding at Eagle Lake, Lassen Co., Webber Lake, Sierra Co.; Lake Tahoe; near Gorman; Tejon Pass, and n. Los Angeles Co., California).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 44 (Porto Rico in winter; food).
- Gallinago delicata* RIDGWAY, Man. N. Am. Birds, 1887, 150.
- Gallinago delicata* SHARPE, Hand-list, i, 1899, 165.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 74 (Cuba; Jamaica; Tobago; San Geronimo, Guatemala; etc.).
- Gallinago gallinago delicata* HANTZCH, Journ. für Orn., July, 1908, 351, in text.
- Scolopax wilsoni* TEMMINCK, Pl. Col., v, livr. lxviii, 1826, text to pl. 403 (North America).—AUDUBON, Orn. Biog., v, 1839, 583.—WALLES, Rep. Geol., etc. Miss., 1854, 322.—MARTENS, Journ. für Orn., 1859, 218 (Bermudas).
- Scolopax wilsonii* BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1826, 330; ii, 1828, 445 (crit.).—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 401.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 185.—AUDUBON, Orn. Biog., iii, 1835, 322, pl. 243; Synopsis, 1839, 248; Birds Am., 8vo ed., v, 1842, 339, pl. 350.—TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—PEABODY, Rep. Orn. Mass., 1839, 372.—GIRAUD, Birds Long Is., 1844, 261.—JARDINE, Contr. Orn., 1848, 84 (Bermudas, common in

- Oct.).—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, Oct.-May).—MCCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 223 (Texas).—THOMPSON, Nat. Hist. Vermont, 1853, 105.—HENRY, Proc. Ac. Nat. Sci., Phila., vii, 1855, 315 (New Mexico).—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 296 (Franklin Co., Indiana).—WILLIS, An. Rep. Smithson. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithson. Inst. for 1858 (1859), 288 (Bermudas).—POPE, Am. Nat., ii, 1868, 329 (perching on trees).—CASTLE, Am. Nat., ii, 1868, 663 (perching habits).—COOPER, Am. Nat., iii, 1869, 83 (Camas, Montana).—FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—TRIPPE, Proc. Essex Inst., vi, 1871, 119 (Minnesota, April-Oct.).
- S[colopaz] wilsonii* PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Mass.).
- [Scolopaz] wilsonii* PELZELN, Orn. Bras., 1870, 458 (Rio de Janeiro).
- Scolopaz wilsonii* KENNICOTT, Trans. Ills. Agric. Assoc., i, 1855, 587 (Illinois).
- Gallinago wilsoni* BONAPARTE, Geog. and Comp. List, 1838, 52.—GOSSE, Birds Jamaica, 1847, 353.—SCLATER, Proc. Zool. Soc. Lond., 1856, 310 (Mexico); 1859, 369 (Jalapa, Vera Cruz); 1864, 178 (City of Mexico).—GUNDLACH, Journ. für Orn., 1856, 350 (Cuba); 1862, 85 (Cuba; crit.); 1874, 313 (Porto Rico); 1875, 321 (Cuba); 1878, 161, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 353.—MOORE, Proc. Zool. Soc. Lond., 1859, 64 (Omoa, Honduras).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas).—SCLATER and SALVIN, Ibis, 1859, 228 (Guatemala); Proc. Zool. Soc. Lond., 1867, 280 (Mosquito coast); 1879, 547 (Medellin, Antioquia, Colombia).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba); xvii, 1875, 445 (New England).—ALBRECHT, Journ. für Orn., 1861, 56 (Bahamas).—VERRILL, Proc. Essex Inst., iii, 1862, 157 (coast of Maine, breeding).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 6.—DRESSER, Ibis, 1866, 36 (San Antonio, Texas).—COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 97 (Fort Whipple, Arizona); Ibis, 1866, 265 (Mojave River, Arizona); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Check List, 1873, no. 414; 2nd ed., 1882, no. 608; Birds North-west, 1874, 475.—BROWN, Ibis, 1868, 425 (Vancouver Island).—SUNDEVALL, Oefv. K. Vet.-Akad. Förh. Stockholm, 1869, 587 (St. Bartholomew).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 141 (Costa Rica); Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent, winter).—SALVIN, Proc. Zool. Soc. Lond., 1870, 219 (Chitra, Veragua).—HARTING, Handb. Brit. Birds, 1872, 143 (England).—AIKEN, Proc. Bost. Soc. N. H., xv, 1872, 209 (Colorado).—DREW, Bull. Nutt. Orn. Club, vi, 1880, 142 (San Juan Co., Colorado, breeding).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 145 (one British record).—REINHARDT, Vid. Medd. nat. Forh. Kjobenhavn, 1881, 186 (Greenland).—FRANCIS, Bull. Nutt. Orn. Club, viii, 1883, 243 (Brookline, Massachusetts, breeding).—HARTLAUB, Journ. für Orn., 1883, 278 (Portage Bay, Alaska).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 188.—LANGILLE, Our Birds in their Haunts, 1884, 212-215 (habits, etc.).—TURNER, Proc. U. S. Nat. Mus., viii, 1886, 246 (Fort Chimo, Ungava, June; Rupert House, June 15).—FEILDEN, Ibis, 1889, 492 (Barbados).
- Gallinago wilsoni*? TAYLOR, Ibis, 1860, 314 (Comayagua, Honduras; habits).
- Gallinago wilsoni* COUES, Key N. Am. Birds, 2nd ed., 1884, 621.
- [Gallinago] wilsoni* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.—CORY, List Birds West Ind., revised ed., 1886, 26.
- Gallinago wilsonii* BURNETT, Proc. Bost. Soc. N. H., iv, 1851, 116 (Pine Barrens, South Carolina).—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Lake Superior).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 710.—BAIRD, Cat. N. Am. Birds, 1859, no. 523; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Brownsville, Texas, Feb.); in Rep. Ives' Exped.

- Colorado R., pt. v, 1861, 6.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 15.—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—NEWTON (A. and E.), Ibis, 1859, 258 (St. Croix).—SCLATER, Proc. Zool. Soc. Lond., 1861, 80 (Jamaica).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 301 (Lion Hill, Panama); viii, 1866, 293 (vicinity New York City).—BARNARD, An. Rep. Smithson. Inst. for 1860 (1861), 438 (Chester Co., Pennsylvania).—BLAKISTON, Ibis, 1862, 9 (Saskatchewan); 1863, 131 (Ft. Carlton, Lower Saskatchewan, Red River Settlement).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Mass.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 372 (Lion Hill, Panama).—MCLWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—COUES, Proc. Essex Inst., v, 1868, 293 (New England); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 30 (Fort Macon, North Carolina).—TURNBULL, Birds E. Penn. and N. J., 1869, 39 (Phila. ed., 30).—ABBOTT, Am. Nat., iv, 1870, 547, 548 (New Jersey; breeding).—STEVENSON, Rep. U. S. Geol. and Geog. Surv. Terr., 1871, 466 (Fort Sanders, Wyoming).—TRIPPE, Proc. Bost. Soc. N. H., xv, 1873, 240 (southern Iowa); Am. Nat., viii, 1874, 342 (migration).—MERRIAM, Sixth An. Rep. U. S. Geol. and Geog. Surv. Terr., 1873, 700 (Ft. Ellis, Montana), 714 (Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1874, 11 (Parleys Park, Utah).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 232 (Bermudas, frequent).
- [*Gallinago*] *wilsonii* COUES, Key N. Am. Birds, 1872, 252.
- Gallinago gallinaria* . . . var. *wilsonii* RIDGWAY, Bull. Essex Inst., v, Nov., 1874, 187 (Colorado).
- [*Gallinago*] *gallinaria* . . . var. *wilsonii* RIDGWAY, Ann. Lyc. Nat. Hist. N. Y., x, 1874, 383 (Illinois).
- Gallinago gallinaria wilsoni* RIDGWAY, Bull. Essex Inst., vii, Jan., 1875, 34 (Parleys Park, Utah, breeding).
- Gallinago gallinaria* . . . var. *wilsoni* RIDGWAY, Bull. Essex Inst., vii, 1875, 39 (Nevada).
- Gallinago scolopacina* . . . var. *wilsonii* RIDGWAY, Am. Nat., viii, Feb., 1874, 110 (crit.).
- Gallinago media wilsoni* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199 (Cat. N. Am. Birds, no. 526a); Nom. N. Am. Birds, 1881, no. 526a.—NELSON, Cruise 'Corwin' in 1881 (1883), 85 (coast Bering Sea, breeding).—MCLENNAN, Cruise 'Corwin' in 1884 (1889), 119 (Kowak River, Alaska).—DREW, Auk, ii, 1885, 18 (Colorado, breeding at 6,000–10,000 ft.).—WELLS, List Birds Grenada, 1886, 8.
- [*Gallinago*] *media wilsoni* RIDGWAY, Bull. Ills. State Labr. N. H., no. 4, 1881, 195 (Illinois).
- Gallinago caelestis wilsoni* STEJNÈGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 35.
- Telmatias (Scolopax) wilsoni* REICHENBACH, Gallatres, 1850, pl. 356, figs. 2790–2792.
- Scolopax gallinago wilsoni* SEEBOHM, Ibis, ser. 5, iv, 1886, 140 (crit.); Geog. Distr. Charadriidæ, 1887, pp. xxvii, 486.
- [*Scolopax*] *wilsonii* MAXIMILIAN, Journ. für Orn., 1859, 93.
- Scolopax drummondii* SWAINSON, Fauna Bor.-Am., ii, 1831, 400 (Rocky Mountains; Fur Countries).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 190.—TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—AUDUBON, Orn. Biog., v, 1839, 319; Synopsis, 1839, 249; Birds Am., 8vo ed., vi, 1843, 9.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—CABOT, Proc. Bost. Soc. N. H., vii, 1859, 33 (Massachusetts; crit.).

Gallinago drummondii BONAPARTE, Geog. and Comp. List, 1838, 52; Compt. Rend., xliii, 1856, 579.

G[allinago] drummondii GRAY, Gen. Birds, iii, 1846, 583.

Scolopax douglasii SWAINSON, Fauna Bor.-Am., ii, 1831, 400 (descr. in footnote; Columbia River).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 191.

Scolopax paludosa "Gm[elin]." LESSON, Traité d'Orn., 1831, 556, part.

Scolopax americanus HADFIELD, Zoologist, xxi, 1863, 8446 (Canada; new name for *Scolopax wilsoni*).

Gallinago ———? SCLATER and SALVIN, Ibis, 1859, 228 (Guatemala).

Genus LIMOSA Brisson.

Limosa BRISSON, Orn., v, 1760, 261. (Type, by tautonymy, [*Limosa*] *limosa* Brisson=*Scolopax limosa* Linnæus.)

Rusticola HOUTTUYN, in Nozeman, Nederl. Vogelen, i, 1770 (p. 1 of inhoud). (Type, by monotypy, *R. grutto* Houttuyn=*Scolopax limosa* Linnæus.)

Limicola (not of Leach, 1816) VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 245; Analyse, 1816, 56. (Type, *Limosa melanura* Leisler=*Scolopax limosa* Linnæus.)

Very large Erolinæ (?) (wing 184–225 mm.) with very long bill and legs; bare portion of tibia longer than middle toe without claw, middle toe (with claw) more than one-fifth as long as wing, and claw of middle toe abnormal (long, thin, and straight or slightly recurved terminally, and pectinate).

Bill more than one-third (sometimes nearly half) as long as wing, straight (not at all upturned), slightly depressed terminally; nostril subbasal, longitudinally elliptical (rather narrower anteriorly); nasal groove extending nearly to tip of maxilla; loreal and malar antia on same vertical line, or the latter slightly anterior to the former; mental antia extending beyond posterior end of nostril, sometimes to middle of nostril; anterior outline of frontal feathering U- or V-shaped at base of culmen. Wing rather large, pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing; tertials elongated, broad basally but tapering to the subacuminate tip, the longest falling short of tip of third primary (from outside). Tail slightly less than two-fifths as long as wing, emarginate (lateral rectrices longest); rectrices, 12. Tarsus about one-third as long as wing, continuously transversely scutellate both anteriorly and posteriorly; bare portion of tibia about as long as middle toe with claw, also continuously transversely scutellate before and behind; toes long and slender, the middle one, without claw, decidedly more than half as long as tarsus; outer toe decidedly shorter than middle and decidedly longer than inner toe; hallux slender, about as long (without claw) as basal phalanx of outer toe; claw of middle toe elongated, straight or even slightly recurved terminally, where thin and broad, the inner edge pectinated; a distinct web between outer and middle toes,

extending for about half the length of basal phalanx of middle toe, the web between inner and middle toes very small.

Coloration.—A broad band across upper tail-coverts, axillars, under wing-coverts, tips of greater wing-coverts (broadly) and basal portion of secondaries, proximal primaries, and lateral rectrices, immaculate white, the rest of tail black; summer adults with head, neck, and chest for the greater part cinnamonaceous.

Range.—Northern Europe and Asia, migrating to Abyssinia, India, Australia, etc. (Monotypic.)

KEY TO THE SUBSPECIES OF *LIMOSA LIMOSA*.

- a. Larger (wing 197–225, exposed culmen 86–124, tarsus 77–92); white at base of proximal primaries, secondaries, and lateral rectrices more extensive; summer adults with under parts more extensively barred, the under tail-coverts usually immaculate white and the cinnamon of chest without bars. (Europe and western Siberia, south in migration to northern Africa, etc.).....
Limosa limosa limosa (p. 178).
- aa. Smaller (wing 184–195, exposed culmen 73–91.5, tarsus 61–65); white at base of proximal primaries, secondaries, and lateral rectrices more restricted; summer adults with under parts more heavily barred, the under tail-coverts usually heavily barred or spotted and the chest barred with dusky. (Eastern Siberia, etc., migrating to India, Australia, etc.).....*Limosa limosa melanuroides* (extralimital).^a

LIMOSA LIMOSA LIMOSA (Linnaeus).

BLACK-TAILED GODWIT.

Adult male in summer.—Head, neck, and chest cinnamon, the first two streaked the last barred with dusky; rest of under parts white, the breast and sides (sometimes abdomen and under tail-coverts also) barred with dusky; back and scapulars mixed black, cinnamon, and grayish; wing-coverts brownish gray, the greater coverts broadly tipped with white, forming a broad bar or transverse patch; secondaries also partly white; primaries dusky, the fifth to seventh (counting from outside) white at base, forming a second white patch on the closed wing; rump, longer upper tail-coverts, and greater part of tail blackish or dusky; upper tail-coverts (except terminal half of the longer ones) and basal portion of tail immaculate white, this increasing in extent on lateral rectrices, where occupying greater part of outer pair; axillars and under wing-coverts immaculate white; bill pale brownish or dull yellowish (in dried skins) with

^a *Limosa melanuroides* Gould, Proc. Zool. Soc. Lond., 1846, 84 (Port Essington, Australia); Birds Australia, vi, 1846, pl. 28 and text.—*Limosa zgocephala melanuroides* Dybowski and Taczanowski, Bull. Soc. Zool. France, ix, 1884, 146; Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 316, 338 (Kamchatka).—*Totanus melanurus melanuroides* Seebohm, Hist. Brit. Birds, iii, 1885, 163.—*Limosa limosa melanuroides* Stejneger, Proc. U. S. Nat. Mus., x, July 2, 1887, 131 (Bering Island).—*Limosa brevipes* (not of Gray, 1844) Schlegel, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 21.—*Limosa melanura brevipes* Campbell, Ibis, 1892, 246 (Korea).

terminal third (more or less) blackish or dusky; iris brown; legs and feet dusky (in dried skins).

Adult female in summer.—Similar to the adult male but larger and with less of cinnamon color.

Adults in winter (sexes alike).—Head, neck, back, and scapulars nearly plain deep brownish gray, the head and neck slightly paler grayish; chest immaculate pale gray; otherwise, essentially as in summer plumage.

Young.—"Distinguished from the adults by being darker brown above, with broad sandy-rufous edges to the feathers of the upper surface, the innermost secondaries banded with blackish brown and sandy rufous; the head rufous, streaked with dark brown, but indistinctly; sides of face buffy white, with very fine streaks of brown; throat white; lower throat, sides of neck, and chest reddish buff, slightly mottled with dusky bases to the feathers of the side of the breast; remainder of under surface white, suffused with rufescent buff, and shaded with ashy brown on the sides of the body."^a

Downy young.—"Rusty yellow marked with black, especially on crown and rump; a narrow streak through the eye, wing-joints, cheeks, and belly light yellowish."^b

Adult male.—Wing, 198–225 (210.6); tail, 73–89 (81.9); exposed culmen, 86–124 (102.6); tarsus, 72–84 (75.3); middle toe, 34.5–42 (36.7).^c

Adult female.—Wing, 197–220.5 (209.2); tail, 78–88 (83.7); exposed culmen, 89.5–115.5 (101.3); tarsus, 67–92 (78.8); middle toe, 34–39 (36.5).^d

Breeding in Europe and western Asia, from Iceland, British Islands (including Faroes), Holland, northern Germany, and southern Russia northward (to about as far as Arctic Circle), eastward to Valley of the Ob, Siberia; migrating southward to southern Europe, Madeira and Canary Islands, Abyssinia, etc. Casual or occasional in southern Greenland.

[*Scolopax*] *limosa* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 147 (Sweden); ed. 12, i, 1766, 246.—GMELIN, Syst. Nat., i, pt. ii, 1789, 666.

Scolopax limosa BODDAERT, Tabl. Pl. Enl., 1783, 53 (Pl. Enl., pl. 874).—TEM-MINCK, Cat. Syst., 1807, 170.

Actitis limosa ILLIGER, Prodr. Orn., 1811, 262.

Totanus limosa BECHSTEIN, Orn. Taschenb., ii, 1803, 237; Naturg. Deutschl., iv, 1809, 234.

^a Sharpe, Cat. Birds Brit. Mus., xxiv, 385.

^b Dresser, Birds of Europe.

^c Five specimens.

^d Three specimens.

Measurements of *L. limosa melanuroides* are as follows:—

Adult male (four specimens).—Wing, 184–195 (188.2); tail, 66–82.5 (74.4); exposed culmen, 73–91.5 (79.7); tarsus, 61–65 (62.9); middle toe, 33.5–36.5 (34.7).

- Limosa limosa* RIDGWAY, Proc. U. S. Nat. Mus., viii, Sept. 2, 1885, 356.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 252; 3rd ed., 1910, p. 119.—BRUSINA, Motr., etc., (Orn. Croat.), 1890, 90.—SHARPE, Ibis, 1891, 115 (Fao, Persian Gulf, Oct.); Cat. Birds, Brit. Mus., xxiv, 1896, 381, 756.—HAGERUP, Birds Greenland, 1891, 55 (s. Greenland, casual).—HARTERT, Kat. Vogels: Mus. Senckenb., 1891, 223.—ELLIOT, N. Am. Shore Birds, 1895, 113, pls. 34, 35.—ROTHSCHILD, Novit. Zool., ix, 1902, 161 (Ankian, Russian Turkestan).—HARTERT and OGILVIE-GRANT, Novit. Zool., xii, 1906, 104 (San Miguel, Azores).
- [*Limosa*] *limosa* RIDGWAY, Man. N. Am. Birds, 1887, 164.
- [*Limosa*] *limosa* SHARPE, Hand-list., i, 1899, 159.—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands).
- Limosa limosa limosa* SCHALOW, Journ. für Orn., 1908, 88 (centr. Asia).
- Rusticola grutto* HOUTTUYN, in Nozeman, Nederl. Vogelen, i, 1770 (p. 1 of inhoud). (Holland.)
- [?] [*Scolopax*] *lapponica* (not of Linnæus) GMELIN, Syst. Nat., i, pt. ii, 1789, 667.
- [*Scolopax*] *belgica* GMELIN, Syst. Nat., i, pt. ii, 1789, 663 (Belgium).
- Scolopax belgica* VIEILLLOT, Nouv. Dict., iii, 1816, 356.
- Limosa belgica* SALVADORI, Elenco Ucc. Ital., 1886, 228; Ann. Mus. Genov., (2), vi, 1888, 311.—TATT, Ibis, 1887, 393 (Portugal, March).—SAUNDERS, Man. Brit. Birds, 1889, 609.—MACPHERSON, Vertebr. Faun. Lakeland, 1892, 405.—IRBY, Orn. Straits Gibralt., 1895, 289.—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 235, pl. 50 (eggs).
- Scolopax aegocephala* (not of Linnæus) BODDAERT, Tabl. Pl. Enl., 1783, 55 (Pl. Enl., pl. 916).
- Totanus aegocephalus* BECHSTEIN, Naturg. Deutschl., iv, 1809, 234.
- Limosa aegocephala* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 34.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 178.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 327; Geog. and Comp. List, 1838, 52.—FLEMING, Brit. Anim., 1828, 107.—MÜHLE, Orn. Griechenl., 1844, 102.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 95; List Brit. Birds, 1863, 156.—RÜPPELL, Syst. Ueb., 1845, 125 (Egypt, winter).—BLYTHE, Cat. Birds Mus. Asiat. Soc., 1849, 268 (Calcutta).—MIDDENDORFF, Reis. Sibir., Zool., 1851, 218 (Great Schantar Island, breeding).—MACGILLIVRAY, Brit. Birds, iv, 1852, 269.—REINHARDT, Ibis, 1861, 11 (Godthaab, Greenland).—IRBY, Ibis, 1883, 186 (Santander, Spain); Orn. Straits Gibralt., 1875, 169; Key List Brit. Birds, 1888, 49.—NEWTON, in Baring-Gould's Iceland, 1863, 412.—WRIGHT, Ibis, 1864, 146 (Malta, spring and autumn).—MORE, Ibis, 1865, 437 (British Islands).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 167.—LOCKE, Expl. Sci. Algér., Ois., ii, 1867, 328.—BAIRD, Ibis, 1867, 282 (Iceland; Greenland).—SMITH, Ibis, 1868, 454 (Portugal).—COLLETT, Norges Fugle, 1868, 56.—SAUNDERS, Ibis, 1869, 173 (s. Spain); 1871, 388 (s. Spain); 1884, 390 (Pyrenees); ed. Yarrell's Brit. Birds, iii, 1883, 488.—FRITSCH, Vög. Eur., 1870, pl. 39, fig. 6.—SALVADORI, Faun. Ital., Ucc., 1871, 222.—DRESSER, Birds Europe, viii, 1872, 211, pl. 574.—HARTING, Handb. Brit. Birds, 1872, 53.—SHELLEY, Birds Egypt, 1872, 245.—FELDEN, Zoologist, 1872, 3249 (Faroe Islands, breeding).—HEUGLIN, Orn. N. O.-Afrika, ii, pt. i, 1873, 1153 (Abyssinia, etc.).—PALMÉN, Finlands Föglar, 1873, 131.—ALSTON and HARVIE-BROWN, Ibis, 1873, 69 (Archangel, Russia).—BROOKS, Ibis, 1873, 338 (Sardinia, migrant).—DURNFORD, Ibis, 1874, 406 (North Frisian Islands).—DANFORTH and HARVIE-BROWN, Ibis, 1873, 422 (Transylvania).—HANCOCK, Birds Northumberland and Durham, 1874, 101.—BLANFORD, East. Persia, ii, 1876, 283 (Shiraz).—RIDGWAY, Proc. U. S. Nat.

- Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 546); Nom. N. Am. Birds, 1881, no. 546.—COUES, Check List, 2nd ed., 1882, no. 630.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 178.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 263.—REID, Ibis, 1885, 253 (Morocco).—BUCKLEY and HARVIE-BROWN, Vertebr. Faun. Outer Hebrides, 1888, 136; Vertebr. Faun. Orkney Is., 1891, 221.—FRIVALDSKY, Av. Hung., 1891, 138.—MADARASZ, Erlaut. Ausst. Ungar. Vogelf., 1891, 108.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 46.—HARVIE-BROWN and BUCKLEY, Vertebr. Faun. Argyll and Inner Hebrides, 1892, 183.—MEADE-WALDO, Ibis, 1893, 205 (Canary Islands).—LILFORD, Col. Figs. Brit. Birds, pt. xxvii, 1893.—PEARSON, Ibis, 1895, 245 (Iceland, breeding).
- L[imosa] aegocephala* GRAY, Gen. Birds, iii, 1847, 570.—COUES, Key N. Am. Birds, 2nd ed., 1884, 636.
- [*Limosa*] *aegocephala* GRAY, Hand-list, iii, 1871, 43, no. 10258.
- Limosa aegocephala* REINHARDT, Journ. für Orn., 1854, 440 (Greenland).—JÄCKEL, Journ. für Orn., 1854, 502 (Bayern).—SCHLEGEL, Vog. Nederl., 1854, pl. 225; Dier. Nederl. Vogels, 1861, pl. 23, figs. 1, 2; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 19.—MÜLLER, Journ. für Orn., 1856, 229 (Provence).—LINDER-MAYER, Vög. Griechenl., 1860, 140.—RADDE, Reis. Sibir., Vög., 1863, 331 (Tarei-nor).—SALVADORI, Journ. für Orn., 1865, 285 (Sardinia).—DROSTE, Journ. für Orn., 1868, 39 (Borkum); 1869, 343 (Faroe Islands); 1871, 389 (Borkum).
- Limosa melanura* LEISLER, Nachtr. Bechst. Naturg., ii, 1813, 153.—TEMMINCK, Man. d'Orn., ii, 1820, 664.—WERNER, Atlas, Grallatores, 1827, pl. 25.—BREHM, Vög. Deutschl., 1831, 627.—LESSON, Traité d'Orn., 1831, 554.—JENYNS, Man. Brit. Vertebr., 1835, 203.—NAUMANN, Vög. Deutschl., viii, 1836, 406, pls. 212, 213.—GOULD, Birds Europe, iv, 1837, pl. 305 and text; Birds Great Brit., iv, 1868, pl. 50 and text.—WEBB and BERTHELOT, Orn. Canar., 1841, 38 (accidental).—SCHLEGEL, Rev. Crit., 1844, p. lxxxvii.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 81.—HÖLBOEL, Naturhist. Tidsskr., iv, 1843, 409 (Greenland); Faun. Groenl., 1846, 40.—YARRELL, Hist. Brit. Birds, 2nd ed., ii, 1845, 634; 3rd ed., ii, 1856, 681.—HOLM, Naturhist. Tidsskr., 2nd ser., ii, 1848, 513 (Faroe Islands).—THOMPSON, Birds Ireland, ii, 1850, 222.—REICHENBACH, Grallatores, 1850, pl. 76, figs. 569–571.—BREHM, Vogelf., 1855, 309.—BOLLE, Journ. für Orn., 1855, 176 (Canary Islands).—HEWITSON, Eggs Brit. Birds, ii, 1856, 342, pl. 93.—POWYS, Ibis, 1860, 343 (Ionian Islands).—GIGLIOLI, Ibis, 1865, 61 (Pisa, Italy); Avif. Ital., 1886, 400; 1st Resoc., 1889, 607; 2nd Resoc., 1890, 654; 3rd Resoc., 1891, 513.—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 208 (Madeira).—STEVENSON, Birds Norfolk, ii, 1870, 248.—ELWES and BUCKLEY, Ibis, 1870, 331 (Epirus).—SUNDEVALL, Svenak. Fogl., 1870, pl. 38, fig. 5.—SAUNDERS, Ibis, 1871, 310 (s. Spain).—GRAY (R.), Birds West Scotl., 1871, 305.—SEVERTZOV, Turkest. Jevotn., 1873, 69 (Turkestan, migrant).—SAXBY, Birds Shetlands, 1874, 197.—FALLON, Ois. Belg., 1875, 176.—BOGDANOW, Birds Caucas., 1879, 156; Consp. Av. Imp. Ross., 1884, 85.—FORBES, Proc. Zool. Soc. Lond., 1881, 644 (anatomy).—SEEBOHM, Ibis, 1883 29 (Caucasus); 1892, 22 (Helgoland); Geog. Distr. Charadriidæ, 1887, 389, part.—BUCKLEY and HARVIE-BROWN, Vertebr. Faun. Sutherl., Caithness, and West Cromarty, 1887, 225.—LILFORD, Ibis, 1889, 342 (Cyprus).
- [*Limosa*] *melanura* SWAINSON, Fauna Bor.-Am., ii, 1831, 395, footnote (crit.).
- L[imosa] melanura* SWAINSON, Fauna Bor.-Am., ii, 1831, 396, footnote (crit.).
- Limicola melanura* VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 250.—ROUX, Orn. Prov., 1825, pls. 303, 304.

Fedoa melanura STEPHENS, Shaw's Gen. Zool., xii, 1824, 73.

Totanus melanurus SIEBOHM, Hist. Brit. Birds, iii, 1885, 162.

Limosa jadrega LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 32 (Lincolnshire, England).

Limosa islandica BREHM, Vög. Deutschl., 1831, 627 (Wiesen Islands, rarely to Germany); Vogelf., 1855, 309.

Genus VETOLA Mathews.

Fedoa (not of Leach, 1816) STEPHENS, Shaw's Gen. Zoology, xii, pt. i, 1824, 70.
(Type, *Fedoa americana* Stephens=*Scolopax fedoa* Linnæus.)

Vetola^a MATHEWS, Birds Australia, iii, pt. 2, May 2, 1913, 191. (Type, by original designation, *Scolopax lapponica* Linnæus.)

Very large Erolinæ (?) (wing about 196–240 mm.) with bill at least one-third as long as wing, obviously but not conspicuously recurved, distinctly depressed for distal half; tarsus much less than one-third as long as wing (sometimes less than one-fourth as long); bare portion of tibia shorter than middle toe without claw, and with claw of middle toe normal (short, blunt, and nonpectinate).

Bill slightly but distinctly recurved or upturned, distinctly depressed distally, much deeper than wide at base, the exposed culmen at least one-third as long as wing, and at least as long as tarsus and basal phalanx of middle toe; culmen distinctly ascending basally, with a more or less concave outline; nostrils sub-basal, longitudinally elliptical or linear, previous; nasal groove extending nearly to tip of bill; relative position of loreal and malar antia variable; mental antia extending as far as base of nostril, sometimes farther; anterior outline of frontal feathering forming a more or less concave (sometimes nearly straight) line across base of culmen. Wing ample, pointed, the longest primary (outermost) exceeding distal secondaries by more (sometimes much more) than half the length of wing; tertials elongated, broad, with rounded tips (*V. fedoa*), narrower, subacuminate terminally (*V. lapponica*) or intermediate in shape (*V. hæmastica*), the longest falling short (for a greater or less distance) of tips of longest primaries. Tail less than two-fifths as long as wing, slightly emarginate or nearly truncate, the middle pair of rectrices sometimes very slightly projecting; rectrices, 12. Tarsus much less than one-third as long as wing (sometimes less than one-fourth as long), more or less continuously transversely scutellate anteriorly and posteriorly (the upper portion sometimes with scutella more or less broken or irregular); bare portion of tibia shorter than middle toe without claw, also more or less continuously scutellate before and behind; lateral toes decidedly shorter than middle toe, the outer very slightly to decidedly shorter than the inner; hallux slender, shorter than basal phalanx of middle or outer toe; web between

^a *Vetola*, a Venetian name. (Mathews.)

outer and middle toes distinct, extending for half or more the length of basal phalanges; no web between inner and middle toes.

Coloration.—Very diverse, no two species being closely similar, but summer adults with under parts buffy or cinnamonaceous (with or without dusky bars), and tail barred or else blackish with basal portion of lateral rectrices white.

Range.—Northern hemisphere, visiting southern hemisphere during migration. (Three species.)

KEY TO THE SPECIES AND SUBSPECIES OF *VETOLA*.

- a. Tail distinctly barred; axillars and under wing-coverts pale cinnamon or white.
- b. Upper tail-coverts pale cinnamon barred with blackish; axillars and under wing-coverts cinnamon-rufous. (North America, southward in winter.)
Vetola fedoa (p. 184).
- bb. Upper tail-coverts white, spotted with dusky; axillars and under wing-coverts white, irregularly marked with dusky. (*Vetola lapponica*.)
- c. Rump white, marked with broad acuminate streaks of dusky; head, neck, and under parts deep cinnamon in summer plumage. (Northern Europe and Asia.).....*Vetola lapponica lapponica* (extralimital).^a
- cc. Rump dusky, the feathers margined with white; head, neck, and under parts paler cinnamon in summer adults. (Shores of North Pacific Ocean, in eastern Siberia, Kamchatka, and western Alaska, migrating southward through Japan and China to Malay Archipelago, Australia, New Zealand, etc.).....*Vetola lapponica baueri* (p. 187).
- aa. Tail not barred (uniform black, with white base and tip); axillars and most of under wing-coverts uniform dusky. (North America, chiefly east of Rocky Mountains; South America in migration.).....*Vetola haemastica* (p. 191).

^a [*Scolopax*] *lapponica* Linnaeus, Syst. Nat., ed. 10, i, 1758, 147 (Lapland); ed. 12, i, 1766, 246.—*Limicola lapponica* Vieillot, Nouv. Dict. d'Hist. Nat., iii, 1816, 250.—*L[imosa]* *lapponica* Gray, Gen. Birds, iii, 1849, 570.—*Limosa lapponica* Harting, Handb. Brit. Birds, 1872, 53; Dresser, Birds Europe, viii, 1872, 203, pls. 573, 574; Poynting, Eggs Brit. Birds, pt. 4, 1896, 231, pl. 49 (eggs); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 373.—[*Limosa lapponica*] *α lapponica* Baird, Brewer, and Ridgway, Water Birds N. Am., i, 1884, 254.—*Limosa lapponica lapponica* American Ornithologists' Union, Check List, 3rd ed., 1910, 119.—[*Scolopax*] *ægocephala* Linnaeus, Syst. Nat., ed. 10, i, 1758, 147 (s. Europe); ed. 12, i, 1766, 246.—*Totanus ægocephalus* Bechstein, Orn. Taschenb., ii, 1803, 238.—*Limosa ægocephala* Leach, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 32.—*Limosa leucophæa* Latham, Index Orn., ii, 1790, 719 (Europe, Africa, rare in England).—*Totanus leucophæus* Bechstein, Orn. Taschenb., ii, 1803, 289.—*Totanus ferrugineus* Meyer and Wolf, Taschenb., ii, 1810, 374 (Germany, Lapland, and Hudson Bay).—*Limosa ferruginea* Pallas, Zoogr. Russo-Asiat., ii, 1826, 180.—*Limosa meyeri* Leisler, Nachtr. Bechst. Naturg., ii, 1813, 172.—*Limicola meyeri* Vieillot, Nouv. Dict. d'Hist. Nat., iii, 1816, 249 (n. Europe).—*Fedoa meyeri* Stephens, Shaw's Gen. Zool., xii, pt. i, 1824, 75.—*Limosa noveboracensis* Leach, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 32 (Kent).—*Fedoa pectoralis* Stephens, Shaw's Gen. Zool., xii, pt. i, 1824, 79 (Devon and Cornwall).—*Limosa rufa* (not *Totanus rufus* Bechstein, 1809) Naumann, Vög. Deutschl., viii, 1836, 446; xiii, 18—, 246; Macgillivray, Hist. Brit. Birds, iv, 1852, 260; Yarell, Hist. Brit. Birds, ed. 2, ii, 1845, 641; ed. 3, ii, 1856, 688; Gould, Birds Great Brit., iv, 1868, pl. 51 and text; Seebohm, Geog. Distr. Charadriidæ, 1887, pp. xxiv, 384.—*Totanus rufus* Seebohm, Hist. Brit. Birds, iii, 1885, 156.

VETOLA FEDOA (Linnaeus).

MARBLED GODWIT.

Adults in summer (sexes alike).—General color pale cinnamon (or between pale pinkish buff and vinaceous-buff), becoming paler (pale dull buff or dull buffy whitish) on head, the superciliary region (broadly) nearly if not quite immaculate except posteriorly, the chin and at least upper portion of throat quite immaculate; head and neck otherwise streaked with dusky, the streaks broadest on pileum; scapulars and interscapulars with sooty black or fuscous-black predominating, this broken by broad bars and transverse spots of vinaceous-buff extending from edges of the feathers halfway or more toward shafts; lesser wing-coverts dusky grayish brown margined with vinaceous-buff; middle coverts vinaceous-buff broadly streaked and transversely spotted or barred with blackish; greater coverts light pinkish cinnamon with narrow zig-zag bars of grayish brown, the secondaries deeper light pinkish cinnamon, more minutely flecked (with transverse tendency) with grayish brown; tertials dusky obliquely barred with vinaceous-buff, the bars interrupted along median portion (broadly) of the feathers; primary coverts sooty black, the innermost (proximal) ones less blackish, mottled on outer webs with cinnamonaceous, and margined terminally with pale buffy; four outermost (distal) primaries sooty blackish or dark fuscous, the fourth or third and fourth more or less flecked or mottled along edges with pale cinnamonaceous, the proximal primaries cinnamon sparsely and minutely flecked with dusky, their shafts dusky and (at least the longer ones) with a more or less distinct subterminal spot of dusky and narrowly tipped with pale buffy; lower back and rump pale cinnamon-buff or vinaceous-buff, each feather with a broad subterminal crescentic spot of dusky (becoming narrower on lower rump), the upper tail-coverts pale cinnamon-buff or vinaceous-buff barred with dusky; four middle rectrices pale cinnamon-buff or vinaceous-buff distinctly and rather regularly barred with dusky, the lateral rectrices deeper cinnamonaceous, with narrower, irregular bars and longitudinal markings of dusky; chest, breast, sides, flanks, and under tail-coverts narrowly and irregularly barred with dusky, the bars broadest on sides, more irregular and more or less lunulate on chest; axillars and under wing-coverts light cinnamon, the former with a few narrow zig-zag bars of grayish brown, the latter nearly immaculate; bill dusky terminally, brownish (dull flesh color in life) for about basal half; iris dark brown; legs and feet dusky (gray or bluish gray in life).

Adults in winter.—Similar to the summer plumage, but chest immaculate, except laterally, the sides and flanks very indistinctly, if at all, barred.

Young.—Essentially like winter adults, but the cinnamon-buff or cinnamon color deeper.

Adult male.—Wing, 221–228 (225.4); tail, 77.5–95 (82.9); exposed culmen, 92–119 (100.3); tarsus, 67–75 (69.4); middle toe, 33–37 (35.4).^a

Adult female.—Wing, 212–234 (224.1); tail, 79–89 (83.4); exposed culmen, 88.5–117.5 (104.8); tarsus, 67–76.5 (71.4); middle toe, 36–40 (38.3).^b

Temperate North America, chiefly interior districts; breeding from valley of the Saskatchewan, Manitoba (plains of Souris River; near Winnipeg), etc., southward to North Dakota (formerly to Iowa, Wisconsin, and northern Ohio); during migration (occasionally or formerly, at least) near Atlantic coast as far northward as Maine (Portland), Prince Edward Island, and southern shores of Hudson Bay, and on Pacific coast as far as Vancouver Island; wintering from Georgia, Florida, Louisiana, and southern Lower California southward to Cuba, Porto Rico, and Grenada, and through Mexico (Matamoros, Tamaulipas; Cozumel Island and Mérida, Yucatan; Guanajuato; Valley of Mexico; Mazatlán, Sinaloa; San Mateo, Oaxaca), Guatemala (Chiapám), British Honduras (Belize), etc., to Ecuador (Santa Rosa) and Peru (Santa Lucia); accidental in Alaska and Bermuda?

[*Scolopax*] *fedoa* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 146 (Hudson Bay; based on *Greater American Godwit*, *Fedoa americana* Edwards, Nat. Hist., 137; *Limosa americana rufa* Brisson, Orn., v, 287); ed. 12, i, 1766, 244.—GMELIN, Syst. Nat., i, pt. ii, 1789, 663.—LATHAM, Index Orn., ii, 1790, 718.—TURTON, Syst. Nat., i, 1806, 398.

Scolopax fedoa WILSON, Am. Orn., vii, 1813, 30, pl. 56, fig. 4.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 75 (crit.).

Limicola fedoa VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 248.

Limosa fedoa SABINE, in Franklin's Polar Sea, 1823, 689.—ORD, ed. Wilson's Am. Orn., vii, 1824, 30.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 75; Obs. Nomencl. Wilson's Am. Orn., 1826, [157]; Ann. Lyc. N. Y., ii, 1826, 328; Geog. and Comp. List, 1838, 52.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 395 (Saskatchewan plains).—LESSON, Traité d'Orn., 1831, 554.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 173.—AUDUBON, Orn. Biog., iii, 1835, 287, pl. 238; v, 1839, 590; Synopsis, 1839, 246; Birds Am., 8vo ed., v, 1842, 331, pl. 348.—TOWNSEND, Journ. Ac. Nat.

^a Five specimens.

^b Eight specimens.

Some of the specimens measured (at least among the supposed females) are evidently wrongly sexed. According to Dr. Thomas S. Roberts (Bull. Nutt. Orn. Club, v, 1880, 18) there is a marked difference in size between the sexes, five specimens of each sex measuring, before being skinned, as follows:

Five males: Total length, 419.1–447.5 (431.8); extent of wings, 774–800.1 (789.9; “bill” (exposed culmen?), 93–101.6 (97.5).

Five females: Total length, 460.25–498.33 (485.03); extent of wings, 812.8–860.3 (833.63; “bill” (exposed culmen?), 115.31–128.52 (121.31).

The original measurements were in inches and hundredths.

Sci. Phila., viii, 1839, 156 (n. w. United States).—PEABODY, Rep. Orn. Mass., 1839, 371.—VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 28.—GRAUD, Birds Long Is., 1844, 259.—GRAY, List Birds Brit. Mus., Grall., 1844, 95.—LEMBEYE, Aves de la Isla de Cuba, 1850, 90.—REICHENBACH, Grallatores, 1850, pl. 76, figs. 572.—CABANIS, Journ. für Orn., 1856, 350 (Cuba).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 740; Proc. Ac. Nat. Sci. Phila., xiv, 1862, 321 (California).—BAIRD, Cat. N. Am. Birds, 1859, no. 547.—MOORE, Proc. Zool. Soc. Lond., 1859, 64 (Belize; Brit. Honduras).—SOLATER and SALVIN, Ibis, 1859, 230 (Belize; Guatemala); Proc. Zool. Soc. Lond., 1873, 456 (coast Honduras; Guatemala); 1878, 141 (Santa Rosa, Ecuador).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 245 (Shoalwater Bay, Washington, spring and fall; San Francisco, California, March).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—GUNDLACH, Journ. für Orn., 1861, 340 (Cuba); 1862, 84 (Cuba); 1875, 320 (Cuba); 1878, 161, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 353; Anal. Soc. Esp. Hist. Nat., vii, 1878, 368 (Porto Rico).—BLAKISTON, Ibis, 1862, 9 (Saskatchewan); 1863, 134 (Saskatchewan).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Massachusetts); Bull. Mus. Comp. Zool., ii, 1871, 356 (e. Florida, winter).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 23.—SALVIN, Ibis, 1865, 190 (Guatemala).—HOY, An. Rep. Smithson. Inst. for 1864 (1865), 438 (Missouri).—DRESSER, Ibis, 1866, 39 (Texas).—MCILWRAITH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—COUES, Ibis, 1866, 269 (s. California); Proc. Bost. Soc. N. H., xii, 1868, 123 (South Carolina); Proc. Essex Inst., v, 1868, 296 (Essex Co., Mass.); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 32 (Fort Macon, North Carolina); Check List, 1873, no. 428; Birds Northwest, 1874, 292 (habits, etc.); Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 641 (Pembina, North Dakota).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 294 (vicinity New York City); ix, 1869, 210 (Merida, Yucatan); Mem. Bost. Soc. N. H., ii, 1874, 306 (Mazatlan, Sinaloa, in winter, a few in summer); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo, Oaxaca, Aug., Feb.).—BROWN, Ibis, 1868, 425 (Vancouver Island).—TURNBULL, Birds East Penn. and N. J., 1869, 41 (Phila. ed., 32).—TRIFFE, Proc. Essex Inst., vi, 1871, 119 (Minnesota); Proc. Bost. Soc. N. H., xv, 1873, 241 (southern Iowa).—SNOW, Birds Kansas, 1873, 10.—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (Mass. Maine coast).—HENSHAW, Zool. Exp. W. 100th Merid., 1875, 457 (San Luis Lakes, e. Colorado; Oct. 1).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 748 (Santa Lucia, Peru); Orn. du Pérou, iii, 1886, 379.—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 162 (Fort Brown, Texas).—MAYNARD, Birds E. N. Am., 1879, 396.—ROBERTS and BENNER, Bull. Nutt. Orn. Club, v, 1880, 18 (Grant Co., Minnesota, breeding; measurements, etc.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 543).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 255.—DREW, Auk, ii, 1885, 18 (e. Colorado).—AGERSBORG, Auk, ii, 1885, 286 (s. e. South Dakota).—BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 119 (Santa Rosa, Ecuador).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 249; 3rd ed., 1910, p. 118.—EVERMANN, Auk, iii, 1886, 91 (Ventura Co., California); v, 1888, 349 (Carroll Co., Indiana).—SETON, Auk, iii, 1886, 152 (near Winnipeg, and plains of Souris River, Manitoba, summer resident).—SCOTT, Auk, iii, 1886, 386 (San Pedro River, Arizona); vi, 1889, 157 (Gulf coast Florida); ix, 1892, 212 (Caloosahatchie River, Florida).—DUTCHER, Auk, iii, 1886, 436 (Long Island records).—WELLS, Proc. U. S. Nat. Mus., ix, 1886, 628 (Grenada).—TOWNSEND, Proc. U. S. Nat. Mus., x, 1887, 198 (Humboldt Bay, California, resident; breeding?).—CORY, Auk, iv, 1887, 316 (West Indian localities and

- records; descr., etc.); Birds West Ind., 1889, 237; Cat. West Ind. Birds, 1892, 93 (Cuba; Porto Rico; Grenada).—SIEBOLD, Geog. Distr. Charadriidae, 1887, pp. xxvi, 388.—BROOKHAM, Proc. U. S. Nat. Mus., x, Sept. 19, 1888, 642, 652 (Corpus Christi, Texas).—SALVIN, Ibis, 1889, 379 (Cozumel Island).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 501 (Manitoba; habits, etc.).—FISHER (A. K.), North Am. Fauna, no. 7, 1893, 23 (Morro Bay, California).—ELLIOT, N. Am. Shore Birds, 1895, 106, pl. 31.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 388 (Cozumel Island; Chiapam, Guatemala; etc.), 756 (Hayes River, Hudson Bay; Iowa; California).—COOKE, Birds Col., 1897, 66 (San Luis Lakes, Oct. 1, 1874).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 367 (Matamoros, Tamaulipas; Mazatlan, Sinaloa; Guanajuato; Valley of Mexico; Merida and Cozumel Island, Yucatan; Belize, Brit. Honduras; Chiapam, Guatemala; Cuba).—HATHAWAY, Auk, xxx, 1913, 551 (Sakonnet Point, Rhode Island, Sept. 7, 1908).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 43 (Porto Rico; 1 record only).
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- Limosa fedoa* RIDGWAY, Nom. N. Am. Birds, 1881, no. 543.—COUES, Check List, 2d ed., 1882, no. 628.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 529 (San Quentin Bay, Lower California, May; breeding?).—BROWN, (N. C.) Auk, ii, 1885, 385 (Portland, Maine, May, 1884).
- [*Limosa fedoa* COUES, Key N. Am. Birds, 2d ed., 1884, 635.
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- Limicola marmorata* VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 248; Gal. Ois., ii, 1825, 115, pl. 243.
- Totanus marmoratus* VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 408 (Antilles; North America).
- Fedoa marmorata* STEPHENS, Shaw's Gen. Zool., xii, pt. i, 1824, 82.
- Fedoa americana* STEPHENS, Shaw's Gen. Zool., xii, pt. i, 1824, 71 (North America).
- Limosa adspersa* NAUMANN, Vög. Deutschl., viii, 1836, 429 (Mexico; coll. Berlin Museum).—REICHENBACH, Grallatores, 1850, pl. 76, fig. 573.

VETOLA LAPPONICA BAUERI (Naumann).

PACIFIC GODWIT.

Similar to *V. lapponica lapponica*^a but coloration paler, the rump, however, much darker (grayish brown or dusky predominating instead of white); size averaging larger.

Adults in summer (sexes alike).—Head, neck, and under parts cinnamon, or light cinnamon, the pileum, hindneck, and sides of neck

^a See p. 183.

streaked with dusky; back and scapulars dusky, irregularly spotted with whitish and light cinnamon-rufous; rump grayish dusky, the feathers margined with white; upper tail-coverts white, spotted with dusky; tail brownish gray, irregularly barred and narrowly tipped with white; wing-coverts light brownish gray, with dusky shaft-streaks and whitish margins, the anterior lesser coverts darker and more uniform in color; primaries and primary-coverts dusky, the proximal primaries margined terminally with white; axillars and under wing-coverts white, irregularly marked with brownish gray or dusky.

Adults in winter.—Above plain brownish gray or grayish brown; head, neck, and under parts dull whitish, the former streaked with grayish brown, the chest and sides irregularly barred with grayish brown; rump, remiges, tail, etc., as in summer plumage.

Young.—Above, including wing-coverts, light grayish buff, buffy grayish, or pale clay color, coarsely and irregularly spotted with dusky, chiefly along median portion of feathers, and showing as shaft-streaks on wing-coverts; lower parts dull buffy whitish, shaded on chest with deeper grayish buff; otherwise essentially as in winter adults.

Adult male.—Wing, 218–235 (223.9); tail, 73–80 (77.7); exposed culmen, 77–86.5 (80.3); tarsus, 49–53.5 (51.2); middle toe, 29–31.5 (30.2).^a

Adult female.—Wing, 224–240 (232.5); tail, 77–83.5 (80.1); exposed culmen, 87–114.5 (99.3); tarsus, 51–59 (55); middle toe, 29.5–33 (31.7).^b

Breeding in eastern Siberia (Gichiga; Marcova; Nijni Kolymsk, etc., and westward to Taimyr Peninsula), Kamchatka, and western Alaska (Kowak Delta, Hotham Inlet, Kotzebue Sound, Lower Yukon Valley, etc., to Unalaska); migrating southward through Manchuria, Korea, China, Japan, Philippine Islands, Borneo, Celebes, and Oceania to Australia, New Hebrides, New Zealand, Nor-

^a Ten specimens.

^b Seven specimens, from Alaska.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Alaska.....	224.6	78.1	80.7	51.2	30.1
One adult male from Bering I., Kamchatka.....	223	78	78	51	31
One adult male from Japan.....	219	75	77	51.5	30.5
Three adult males of <i>V. l. lapponica</i> (Europe).....	211.5	76.3	77	49.2	28.8
FEMALES.					
Seven adult females from Alaska.....	232.5	80.1	99.3	55	31.7
One adult female from Japan.....	218	73	98	55	31
One adult female from China.....	202	75	106.5	"71"	34.5

folk Island, Fiji Islands, and Samoan Islands; casual in Hawaiian Islands (Kauai, one specimen; Laysan, several), and Lower California; occasional or casual on Pribilof Islands and at Point Barrow, Alaska.

Limosa barge, part, PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 180 (Kamchatka; Kuril Islands).

Limosa baueri NAUMANN, Vög. Deutschl., viii, 1836, 429 (Australia; ex Natterer, manuscript; no description, but not a *nomen nudum*; see Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 123).—PELZELN, Wiener Sitzungs., xli, 1860, 326.—BULLER, Birds New Zealand, 1873, 198.—SALVADORI, Ucc. Born., 1874, 331; Orn. Papuasias, etc., iii, 1882, 329; Agg. Orn. Papuasias, etc., iii, 1891, 203.—TRISTRAM, Ibis, 1876, 264 (New Hebrides); 1879, 44 (Solomon Islands); 1882, 144 (San Cristobal, Solomon Islands).—DAVID and OUSTALET, Ois. Chine, 1877, 459.—SHARPE, Ibis, 1878, 419 (Sarawak, Borneo).—RAMSAY, Proc. Linn. Soc. N. S. W., vii, 1883, 41 (Solomon Islands).—VORDERMAN, Nat. Tijdschr. Nederl. Ind., xlvi, 1886, 22 (Borneo).—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 588 (Olga Bay, Korea).—MATHEWS, Birds Australia, iii, 1913, pl. [148] facing p. 192.

[*Limosa baueri* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 326.

Limosa lapponica baueri STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 122 (Commander Islands, Kamchatka, May 10–Sept.; breeding?; synonymy, crit., measurements, etc.); Proc. U. S. Nat. Mus., x, 1887, 130 (Commander Islands); xvi, 1893, 616 (Tokyo, Japan).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 250; 3rd ed., 1910, p. 119.—TURNER, Contr. N. H. Alaska, 1886, 148 (St. Michaels, Alaska; Aleutian Islands).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 100 (Port Clarence, Aug. 29).—NELSON, Rep. N. H. Coll. Alaska, 1887, 115 (St. Michaels, etc.; habits).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1888, 457 (Seoul, Korea, Oct.); Mém. Acad. St. Petersb. (7), xxxix, 1893, 933 (eastern Siberia).—HARTERT, Kat. Vogelsamml. Mus. Senckenb., 1891, 223.—ELLIOT, N. Am. Shore Birds, 1895, 108, pl. 32.—HENSHAW, Birds Hawaiian Is., 1902, 93 (Kauai, 1 spec.; Laysan, May, several).—ALLEN, Bull. Mus. Comp. Zool., xxi, 1905, 240 (Gichiga and Marcova, n. e. Siberia, breeding).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 154 (near Fusan, Korea, Oct., Nov.; Chemulpo, Sept.).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 19 (Nijni Kolymak, etc., e. Siberia, May, June, July).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 379 (Providence Bay, n. e. Siberia, June).—HERSEY, Smithsonian. Misc. Coll., lxvi, no. 2, 1916, 25 (mouth of Yukon River and northward to Nome, Alaska, breeding).

L[imosa] lapponica baueri RIDGWAY, Man. N. Am. Birds, 1887, 163.—BRYAN, Key Birds Hawaiian Group, 1901, 28 (Kauai).

Vetola lapponica baueri MATHEWS, Birds Australia, iii, pt. 2, May 2, 1913, 192.

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L[imosa] novæ-zeelandiæ GRAY, Gen. Birds, iii, 1847, 570.

Limosa novæ-zeelandiæ REICHENBACH, Gallatores, 1850, pl. 127, figs. 2449, 2450.—BONAPARTE, Compt. Rend., xliii, 1856, 597.—CASSIN, U. S. Expl. Exped. (Wilkes), Orn., 1858, 314 (Rose Id., Samoan Group).—GRAY, Cat. Birds Trop. Is., 1859, 50; Ibis, 1862, 326 (New Zealand).—MARIE, Actes Soc. Linn. Bord., xxvii, 1870, 328 (New Caledonia).—HUTTON, Ibis, 1870, 398 (New Zealand).—DRESSER, Birds Europe, viii, 1872, 213.—FINSCH, Journ. für Orn., 1874, 196 (New Zealand; crit.).—SHARPE, Voy. 'Erebus' and 'Terror,' Birds, 1875, App., p. 30.—LAYARD (E. L. and L. C.), Ibis,

1878, 262 (New Caledonia).—LEGGE, Birds Ceylon, 1880, 833.—HUME, Stray Feath., ix, 1880, 118 (Singapore).—LAYARD, Ibis, 1884, 123 (Norfolk Island).—BULLER, Birds New Zealand, 2nd ed., ii, 1888, 40.—WIGLESWORTH, Abh. Mus. Dresden, 1890-91 (1891), 66 (Samoa; Tonga; Fiji; New Hebrides; Loyalty Islands; New Caledonia; Carolines; Gilbert Island).—FORBES, Ibis, 1893, 529 (Chatham Island).

Limosa novæ-zeelandiæ? MARIE, Ibis, 1877, 363 (New Caledonia).

Limosa lapponica novæ-zeelandiæ RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 200; Nom. N. Am. Birds, 1881, no. 544.—NELSON, Cruise 'Corwin' in 1881 (1883), 89 (Aleutian Islands; Bering Straits; St. Michaels).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 545 (Cape San Lucas district, Lower California).—MCLENNAN, Cruise 'Corwin,' 1884, 120 (Kowak Delta, Hotham Inlet, and Kotzebue Sound, n. w. Alaska, breeding).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 258.—MURDOCH, Rep. Internat. Polar Exp. Point Barrow, 1885, 114 (Point Barrow, Alaska, not breeding).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 755 (mouth of Amoor River; Yokohama; Peel Is., Bonin group; Shanghai, etc.).

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Limosa uropygialis GOULD, Proc. Zool. Soc. Lond., 1848, 38 (Australia; coll. J. Gould); Birds Australia, vi, 1848, pl. 29 and text; Handb. Birds Australia, ii, 1865, 252.—REICHENBACH, Vög. Neuholland, 1850, 196.—MACGILLIVRAY, Narrat. Voy. 'Rattlesnake,' ii, 1852, 358.—GRAY, Proc. Zool. Soc. Lond., 1858, 197 (Torres Straits, Australia); Cat. Mam. and Birds New Guinea, 1859, 62.—LAYARD, Ibis, 1863, 245 (New Zealand); 1876, 393 (Fiji Islands); 1877, 363 (New Caledonia); 1882, 534 (New Caledonia); Proc. Zool. Soc. Lond., 1875, 439 (Fiji Islands); 1876, 497 (Samoa), 503 (Friendly Islands).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 312 (Amoy, s. China); Ibis, 1863, 409 (Formosa), 445 (n. Japan); 1870, 362 (Hainan); 1873, 368, 424 (Shanghai); 1875, 453 (Hakodate, Japan).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 25.—FINSCH, New Guinea, 1865, 182; Journ. für Orn., 1870, 348 (New Zealand; crit.); 1872, 52 (Samoa), 173 (New Zealand); 1874, 196 (New Zealand); 1877, 775 (Eua, Friendly Islands); Ibis, 1881, 540 (New Britain); Vög. der Südsee, 1884, 5, 22 (New Britain).—FINSCH and HARTLAUB, Beitr. Faun. Centr.-Polyn., 1867, 177.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 293 (mouth of Yukon River, etc.; St. Michaels).—BAIRD, Trans. Chicago Ac. Sci., i, 1869, 320, pl. 32 (St. Michaels, etc., Alaska).—MARIE, Actes Soc. Linn. Bord., xxvii, 1870, 328; Ibis, 1877, 363 (New Caledonia).—HOMER, Journ. für Orn., 1870, 423 (e. Siberia).—WALDEN, Trans. Zool. Soc. Lond., viii, 1872, 97 (Celebes).—DRESSER, Birds Europe, viii, 1872, 213.—HUTTON, Ibis, 1872, 246 (Chatham Islands).—

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Limosa rufa uropygialis TACZANOWSKI, Bull. Soc. Zool. France, x, 1885, 475 (Sidemi).—SENBOHM, Geog. Distr. Charadriidæ, 1887, 26, 387; Ibis, 1888, 348 (Great Liakoff Island, Siberia).

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Limosa lapponica (not *Scolopax lapponica* Linnaeus) CASSIN, Proc. Ac. Nat. Sci. Phila., 1858, 196 (Hakodate, Japan).—SWINHOE, Ibis, 1863, 91 (Peking).—TWEEDDALE, Proc. Zool. Soc. Lond., 1878, 711 (North Bohol).—BLAKISTON, Amend. List Birds Japan, 1884, 11.—STEERE, List Birds and Mam. Philippine Exped., 1890, 26 (Negros).

Limosa lapponica, var. GRAY, Proc. Zool. Soc. Lond., 1860, 364 (East Gilolo).

Limosa lapponica seu *rufa* SWINHOE, Ibis, 1861, 410 (Amoy).

Gallinago punctata ELLMAN, Zoologist, 1861, 7470 (New Zealand).

VETOLA HÆMASTICA (Linnaeus).

HUDSONIAN GODWIT.

Adults in summer (sexes alike).—Head and neck pale dull buff or cinnamon-buff to dull buffy whitish, streaked with dusky, the streaks broadest and most distinct on pileum, the chin, extreme upper throat and a broad supraloral stripe immaculate or minutely streaked; scapulars and interscapulars sooty black or dark fuscous, irregularly spotted or barred, mostly along edges, with pale brownish buffy or cinnamonaceous; wing-coverts plain grayish brown, darker on lesser coverts, the distal greater coverts broadly tipped with white, the posterior or proximal middle coverts sometimes more or less spotted with buffy or cinnamonaceous; secondaries and proximal pri-

maries dusky grayish brown, the latter abruptly white basally; shafts of primaries white, except terminally; primary coverts and distal primaries darker grayish brown or fuscous, the proximal coverts tipped with white; tertials dusky grayish brown to fuscous-black, irregularly edged with buffy or cinnamomeous, sometimes indistinctly spotted with grayish brown; lower back and rump plain dusky grayish brown or fuscous; anterior upper tail coverts, abruptly, white (usually immaculate), the posterior (longer) ones sooty black; tail sooty black or fuscous-black, margined terminally with white, abruptly white basally (except on middle rectrices), the white increasing in extent to the outermost rectrix, on which it occupies more than the basal half; under parts of body light russet or mikado brown, irregularly barred with dusky (the bars narrower and less distinct on median portions, broader and more nearly black on sides and flanks), some of the feathers, usually, narrowly tipped with white; anal region and under tail-coverts mixed white and light russet, barred with dusky, the bars broader on longer under tail-coverts; axillars uniform dark sooty brown or fuscous, the under wing-coverts similar but those along edge of wing margined with white and the outer webs of greater coverts white; bill dull yellowish (in life), darker on culmen, blackish terminally; iris dark brown; legs and feet dusky (light bluish gray in life).

Adults in winter.—Back and scapulars plain brownish gray or grayish brown, like wing-coverts; head and neck paler brownish gray, sometimes suffused with buffy whitish; under parts dull whitish or pale grayish buffy, shaded with brownish gray anteriorly; otherwise as in summer plumage.

Young.—Back and scapulars dull brownish gray or grayish brown, the feathers margined terminally with buffy and with a submarginal crescent of dusky; under parts pale dull grayish buffy, the chest more grayish, the abdomen more whitish; otherwise much like winter adults.

Adult male.—Wing, 196–210.5 (203.5); tail, 72–76 (74); exposed culmen, 69–92 (76.7); tarsus, 54–62 (57.5); middle toe, 31–35 (32.5).^a

Adult female.—Wing, 203–222 (212.9); tail, 73.5–82 (77.9); exposed culmen, 67–88 (79.5); tarsus, 55–59.5 (58.1); middle toe, 31–32 (31.7).^a

^a Four specimens.

Some of the specimens measured doubtless have the sex incorrectly determined. Fourteen males and four females measured (before skinning) by Mr. G. S. Agerberg (see Bull. Nutt. Orn. Club, v, 1880, 60) show a decided sexual difference in size, the measurements (converted from inches and hundredths to millimeters) being as follows:—

Males.—Length, 355.6–381 (average, 371.8); extent of wings, 622.3–660.4 (639.3); tail, 76.2–88.9 (82); bill [exposed culmen?], 71.1–81.3 (74.9); tarsus, 55.9–59.7 (57.1); weight, 7½–8 ounces.

Females.—Length, 393.7–419.1 (407.9); extent of wings (one specimen only), 673.1; tail, 81.3–88.9 (85.3); bill [exposed culmen?], 86.4–90.2 (87.4); tarsus, 62.2–64.8 (63.2); weight, 9–9½ ounces.

Breeding on barren grounds or tundra of arctic North America, chiefly from lower Anderson River Valley, Mackenzie, to central Keewatin (but probably also in parts of Yukon Valley and on east side of Hudson Bay north to Hudson Strait), northward, at least casually, to Cumberland Sound (Cape Edwards), west to Port Clarence, Alaska; migrating southward over eastern North America (usually in autumn along Atlantic Coast, in spring through Mississippi Valley), to southern South America as far as Falkland Islands (Mare Harbor; Port Louis; San Salvador Bay), Straits of Magellan, Tierra del Fuego, Patagonia (Chubut and Port Desire), and Chile (Valparaiso; Ancúd; Chiloe Island); no record for Mexico nor Central America, few for northern South America (Laguna de Valência, Venezuela; Trinidad), and in West Indies only Cuba, Guadeloupe, and Barbados; accidental in Bermudas (one specimen, 1875).

[*Scolopax*] *hæmastica* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 147 (Hudson Bay; based on *Red-breasted Godwit*, *Fedoa americana pectore rufa* Edwards, Nat. Hist. Birds, pl. 138).

Limosa hæmastica COUES, Birds Northwest, 1874, 760 (in index); Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 641 (Milk River, Montana); Bull. Nutt. Orn. Club, v, 1880, 59 (Vermilion, South Dakota; measurements); Check List, 2nd ed., 1882, no. 629.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Oat. N. Am. Birds, no. 545); Nom. N. Am. Birds, 1881, no. 545.—NELSON, Cruise 'Corwin' in 1881 (1883), 89 (mouth of Yukon River, 2 specs.); Rep. N. H. Coll. Alaska, 1887, 117 (Nulato, June; Fort Yukon, migrant; Chilcat; Fort Kenai).—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Old Fort Island, Labrador).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 260.—AGERSBORG, Auk, ii, 1885, 286 (s. e. South Dakota).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 247 (Rupert House).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 251; 3rd ed., 1910, p. 119.—SETON, Auk, iii, 1886, 152 (Manitoba).—DUTCHER, Auk, iii, 1886, 437 (Long Island records).—CORY, Auk, iv, 1887, 316 (West Indian localities and references; descr.); Birds West Ind., 1889, 237; Cat. West Ind. Birds, 1892, 93⁷ (Cuba).—SCLATER and HUDSON, Argentine Orn., ii, 1889, 191.—CANTWELL, Auk, vi, 1889, 340 (Minnesota).—FELDEN, Ibis, 1889, 495 (Barbados; habits).—CLARKE (W. E.), Auk, vii, 1890, 321 (Fort Churchill, Keewatin).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 502 (Manitoba, migrant).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 428 (lower Anderson River, Mackenzie).—HOLLAND, Ibis, 1892, 212 (Estancia Espartillo, Argentina; habits).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 77 (Trinidad).—BAGE, Auk, xi, 1894, 163 (Oneida Co., New York).—TROWBRIDGE, Ibis, 1894, 449 (flexibility of upper mandible).—ELLIOT, N. Am. Shore Birds, 1895, 112, pl. 33.—HOLMBERG, Segundo censo Argent., i, 1898, 569.—TAVERNER, Auk, xxiii, 1906, 335 (Point Pelee, Ontario, May 13).—FAY, Auk, xxviii, 1904, 257 (coast Massachusetts; large flight Aug. and Sept., 1910).

Limosa hæmastica COUES, Key N. Am. Birds, 2nd ed., 1884, 635.—RIDGWAY, Man. N. Am. Birds, 1887, 164.

[*Limosa*] *hæmastica* CORY, List Birds West Ind., revised ed., 1886, 26 (Cuba).

Limosa hæmastica BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay).—KOENIGSWALD, Journ. für Orn., 1896, 395 (São Paulo, s. Brazil).—DABBENE, Orn.

- Argentina, 1910, 218 (Chubut, Patagonia; Tierra del Fuego; Malvinas, Buenos Aires).—BERTONI, Faun. Parag., 1914, 38.
- (?) [*Scolopax*] *alba* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 247 (Hudson Bay; based on *White Godwit from Hudsons Bay, Fedoa canadensis rostro sursum recurvo*, Edwards, Nat. Hist., pl. 139, upper fig.; *Limosa candida* Brisson, Orn., v. 290; etc.).
- (?) [*Recurvirostra*] *alba* LATHAM, Index Orn., ii, 1790, 787.
- (?) [*Limosa*] *alba* GRAY, Gen. Birds, iii, 1847, 570.
- (?) [*Scolopax*] *candida* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 247 (North America; founded on *Totanus canadensis* Edwards and *Totanus candidus* Brisson).—GMELIN, Syst. Nat., i, pt. ii, 1789, 668.—LATHAM, Index Orn., ii, 1790, 722.—TURTON, Syst. Nat., i, 1806, 401.
- (?) *Totanus candidus* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 398.
- Scolopax* . . . *lapponica* (not of Linnæus) FORSTER, Philos. Trans., lxii, 1772, 411 (Churchill River, Keewatin).
- [*Scolopax*] *lapponica* TURTON, Syst. Nat., i, 1806, 400, part.
- [*Scolopax lapponica*] β GMELIN, Syst. Nat., i, pt. ii, 1789, 667 (America and Europe to the Caspian Sea).
- [*Scolopax*] *hudsonica* LATHAM, Index Orn., ii, 1790, 720 (Hudson Straits; based on *Hudsonian Godwit* Latham, Synopsis Birds, Suppl., i, 1787, 246; Pennant, Arctic Zool., Suppl., 1787, 68).—TURTON, Syst. Nat., i, 1806, 402.
- Limicola hudsonica* VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 250.
- Fedoa hudsonica* STEPHENS, in Shaw's Gen. Zool., x, 1824, 81.
- Limosa hudsonica* SWAINSON, Fauna Bor.-Am., ii, 1831, 396 (Fort William, w. Ontario; Fort Franklin, Mackenzie).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 175.—AUDUBON, Orn. Biog., iii, 1835, 426, pl. 258; v, 1839, 692; Synopsis, 1839, 247; Birds Am., 8vo ed., v, 1842, 335, pl. 349.—BONAPARTE, Geog. and Comp. List, 1838, 52.—PHABODY, Rep. Orn. Mass., 1839, 371.—GOULD, Voy. 'Beagle,' Birds, 1841, 129 (Falkland Islands; Chiloe).—GIRAUD, Birds Long Is., 1844, 260.—GAY, Faun. Chil., Zool., i, 1847, 420.—REICHENBACH, Gallatres, 1850, pl. 358, figs. 2813, 2814.—LEMBEYE, Aves de la Isla de Cuba, Suppl., 1850, 125.—CABANIS, Journ. für Orn., 1856, 350 (Cuba).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 741.—BAIRD, Cat. N. Am. Birds, 1859, no. 548.—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 289 (Nova Scotia).—SCLATER, Proc. Zool. Soc. Lond., 1860, 387 (Falkland Islands; Straits Magellan); 1867, 339 (Chile).—ABBOTT, Ibis, 1861, 156 (Mare Harbor and Port Louis, Falkland Islands).—GUNDLACH, Journ. für Orn., 1862, 84 (Cuba; crit.); 1875, 320 (Cuba); Repert. Físico-Nat. Cuba, i, 1866, 353.—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—BLAKISTON, Ibis, 1863, 134 (Hudson Bay; Mackenzie River).—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Springfield, Massachusetts).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 22 (Mexico; Falkland Islands).—PELZELN, Reis. 'Novara,' Vög., 1865, 128 (Chiloe); Orn. Bras., 1870, 308, 457.—MCLWRAITH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—LÉOTAUD, Ois. Trinidad, 1866, 447.—COUES, Proc. Ac. Nat. Sci. Phila., xii, 1868, 123 (South Carolina); Proc. Essex Inst., v, 1868, 296 (New England records); Check List, 1873, no. 429; Birds Northwest, 1874, 494.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 293 (mouth of Yukon River).—TURNBULL, Birds E. Penn. and N. J., 1869, 41 (Phila. ed., 32).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1869, 252 (Lake Valencia, Venezuela); Ibis, 1870, 500 (Ancud, Chile; Chiloe); 1873, 456 (Straits Magellan; Falkland Islands).—CUNNINGHAM, Ibis, 1870, 500 (Ancud, Chile; Chiloe, Nov.).—PURDIE, Am. Nat., vii, 1873, 693 (Massachusetts).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England); Bull. Nutt. Orn.

- Club, iv, 1879, 64 (Cape Cod, Massachusetts, Nov. 2, 1878).—REID, Zoologist, 1877, 477 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 237 (Bermudas, 1 spec., 1875).—DURNFORD, Ibis, 1877, 43 (Chuput Valley, Patagonia), 200 (Buenos Aires).—ERNST, Flor. y Faun. Venezuela, 1877, 212.—ADAMS, Ibis, 1878, 439 (St. Michaels and Port Clarence, Alaska).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 450 (Guadeloupe).—MAYNARD, Birds E. N. Am., 1879, 396.—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 87 (Cape Edwards, Cumberland Sound, Sept.).—WHITE, Proc. Zool. Soc. Lond., 1883, 42 (Buenos Aires).—HARTLAUB, Journ. für Orn., 1883, 297 (Chilcoot River, Alaska).—MACFARLANE, Ibis, 1887, 204 (St. Nicholas Bay).—SEEBOHM, Geog. Distr. Charadriidae, 1889, pp. xxvi, 392.—OUSTALET, Miss. Sci. Cap Horn, Ois., 1891, 291.—JAMES, New List Chilean Birds, 1892, 12.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 388 (Laguna de Valencia, Venezuela; La Plata, Argentina; Chuput, Patagonia; Falkland Islands; Straits Magellan, etc.), 756 (Port Desire, Patagonia, etc.).—SCHALOW, Zool. Jahrb., Suppl. iv, Heft 3, 1899, 432 (São Paulo, s. Brazil).—GRANT (C. H. B.), Ibis, 1911, 470 (Los Ynglesas and Puerto San Antonio, Argentina, Nov., Dec.).
- L[imosa] hudsonica* GRAY, Gen. Birds, iii, 1847, 570.—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Mass.).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois).
- [Limosa] hudsonica* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—GRAY, Hand-list, iii, 1871, 43, no. 10264.—COUES, Key N. Am. Birds, 1872, 258.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146.—SHARPE, Hand-list, i, 1899, 159.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 69 (Mexico; Bolivia; Valparaiso, Chile).
- Limosa hudsonica*? GOULD, Proc. Zool. Soc. Lond., 1859, 96 (Falkland Islands).
- Limosa hudsonica* FRASER, Proc. Zool. Soc. Lond., 1843, 118 (Chile).
- [Limosa] hudsonicus* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 294 (vicinity New York City).
- Totanus hudsonicus* SEEBOHM, Hist. Brit. Birds, iii, 1885, 163.
- [?] *Limosa edwardsii* RICHARDSON, Fauna Bor.-Am., ii, 1831, 398 (Hudson Bay; based on *White Godwit from Hudson Bay, Fedoa canadensis rostro sursum recurvo* Edwards, Nat. Hist., p. 139, posterior fig.).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 179.
- Limosa melanura* (not of Leisler) SABINE, in Franklin's Journ. Polar Sea, i, 1823, 689.—BONAPARTE, Specc. Comp., 1824, no. 204.
- Limosa sgocephala* (not *Scolopax sgocephala* Linnaeus) BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 327.
- Limosa australis* GRAY, List Birds Brit. Mus., Grallae, 1844, 95 (San Salvador Bay, East Falkland Islands).
- (?) *Scolopax leucophæa* VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 248, 358 (New York).
- (?) *Totanus leucophæus* VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 407 (Hudson Bay to Mexico).

Genus LIMNODROMUS Maximilian.

- Macrorhamphus* FORSTER, (not of G. Fischer, 1813), Synopt. Cat. Brit. Birds, 1817, 22. (Type, by monotypy, *Scolopax grisea* Gmelin.)
- Macroramphus* (emendation) BONAPARTE, Geog. and Comp. List, 1838, 52.
- Limnodromus* MAXIMILIAN, Beitr. Naturg. Bras., iv, Abth. 2, 1833, 716. (Type, by monotypy, *Scolopax noveboracensis* Gmelin=*Scolopax grisea* Gmelin.)
- Limnodromus* (emendation) BONAPARTE, Fauna Ital. Ucc., i, fasc. xxv (1832-41) (in text to *Gallinago brehmi*).
- Longirostris* S. D. W., Analyst, iv, no. xv, April 1, 1836, 119. (New name for *Macrorhamphus* "Leach.")

Rather large, snipe-like *Erolinæ* (?) (wing 135–150 mm.) with bill at least two-fifths (sometimes half) as long as wing, with the slightly expanded and punctulate terminal portion occupying one-third or more of its total length; tarsus less than twice as long as middle toe without claw, and without web at base of inner interdigital space.

Bill two-fifths to one-half as long as wing, straight, compressed for proximal two-thirds, the terminal third slightly but distinctly expanded, depressed, and minutely punctulate; culmen ascending basally, the base of bill much higher than wide; nostril sub-basal, small, longitudinally elliptical or linear; nasal groove extending to near middle of expanded terminal portion of maxilla; latero-frontal antia forming a straight, sometimes oblique, vertical line from base of culmen to rictus, the malar antia sometimes a continuation of the same line but usually forming a more or less convex or obtuse angular projection, the mental antia more or less (never very much) anterior to the malar antia. Wing moderate, pointed, the longest primary (outermost) exceeding distal secondaries by about half the length of wing; tertials elongated, tapering distally but rounded at tips, the longest falling decidedly short of tip of longest primary. Tail between one-third and two-fifths as long as wing, very slightly rounded; rectrices, 12. Tarsus much shorter than exposed culmen, one-fourth as long as wing or very slightly less, transversely scutellate anteriorly and posteriorly, but scutella of planta tarsi much smaller than those of acrotarsium; bare portion of tibia decidedly shorter than middle toe without claw, with transverse scutella distinct only on lower portion, both before and behind; middle toe about three-fourths as long as tarsus, the outer and inner toes, successively, decidedly shorter; hallux small and slender, shorter than basal phalanx of middle toe; claws rather small, moderately curved, sharp; basal phalanges of outer and middle toe connected for about half the length of the former, the space between inner and middle toe entirely without web.

Coloration.—Lower back, rump, upper tail-coverts, and tail white, the first often immaculate, the rump spotted, the upper tail-coverts and tail barred with blackish; axillars and under wing-coverts white with V-shaped bars of dusky; summer adults with under parts mostly dull light pinkish cinnamon, more or less spotted or barred with dusky, the back, scapulars, etc., variegated with black and pale cinnamonaceous; winter plumage nearly plain brownish gray above, plain white and pale gray beneath.

Range.—Northern North America, migrating to Middle and South America. (Monotypic.)

LIMNODROMUS GRISEUS GRISEUS (Gmelin).**DOWITCHER.**

Adults in breeding plumage (sexes alike).—General color of upper parts dull light pinkish cinnamon to vinaceous-buff, the pileum, hindneck and interscapulars streaked with black (the black streaks very broad on back), the scapulars irregularly spotted with black, or black margined terminally and barred with the lighter color; anterior lesser wing-coverts dusky grayish brown, narrowly margined with paler; middle coverts black centrally, irregularly margined with pale dull pinkish cinnamon or vinaceous-buff; greater coverts grayish brown (more or less deep), edged and tipped with white, the secondaries similar but with white tip and edging broader and with a white streak on outer web near shaft; tertials black, irregularly barred and edged with light cinnamonaceous; primary coverts and primaries dusky, the proximal primaries light brownish gray, margined with white and with an irregular dusky submarginal line; lower back, rump, and upper tail-coverts white, the first often immaculate, the rump spotted with blackish (the spots usually more or less cordate), the upper tail-coverts barred with the same; tail regularly barred with white and dusky or blackish, the bars and interspaces of approximately equal width, the middle rectrices sometimes tinged with cinnamonaceous; sides of head (including broad superciliary stripe) and neck, and under parts dull light pinkish cinnamon, usually more or less intermixed with white on under parts, especially on abdominal region, more or less spotted or speckled with dusky, the sides and flanks barred or transversely spotted with the same, the subloral and suborbital regions streaked or flecked with the same; lores thickly flecked with dusky, forming a broad (sometimes nearly "solid") stripe from bill to eye, and upper margin of auricular region streaked with dusky; axillars and under wing-coverts white, the former with V-shaped bars, the latter with inversely V- or U-shaped markings of dusky; inner webs of primaries plain brownish gray, indistinctly paler along edges; bill blackish, passing into olivaceous basally (in life); iris dark brown; legs and feet light yellowish olive or greenish olive (in life).

Adults in winter.—Head, neck, back, scapulars, and wing-coverts nearly plain gray, the chest and sides also gray, more or less intermixed with white, the remaining under parts mostly immaculate white; an indistinct whitish superciliary stripe; wing-coverts margined with whitish; otherwise as in summer adults.

Young.—Back, scapulars, and tertials variegated with black and light clay color, the latter chiefly on edges of the feathers; under parts dull whitish, more or less suffused with dull buff or pale clay color,

especially on chest, which, together with sides, is usually more or less speckled with dusky; otherwise much like winter adults.

Adult male.—Wing, 135–149 (141); tail, 53–58.5 (54.6); exposed culmen, 51–59.5 (55.3); tarsus, 30–36.5 (33.5); middle toe, 23–27 (25.1).^a

Adult female.—Wing, 138.5–148 (142.9); tail, 52–57 (54.5); exposed culmen, 55.5–62 (59.4); tarsus, 31–36 (33.3); middle toe, 23–27 (25.4).^b

Eastern North America, West Indies, and northeastern South America; breeding far northward, probably in Ungava and northern Labrador (possibly western side of Hudson Bay also); migrating southward along Atlantic coast (more rarely through Mississippi Valley), and wintering in southern Florida, West Indies (Bahamas; Cuba; Jamaica; Sombbrero; Guadeloupe; Barbados; Grenada), Trinidad, British Guiana, and Brazil (Cujutuba; Pará; Bahia); occasional in British Islands (15 records), and France (2 records); casual in Greenland, Alaska (Nushagak), and northern Idaho (Fort Sherman).^c

[*Scolopax*] *grisea* GMELIN, Syst. Nat., i, pt. ii, 1789, 656 (coast of New York; based on *Brown Snipe* Pennant, Arctic Zool., ii, 464; Latham, Synopsis Birds, v. 154).—LATHAM, Index Orn., ii, 1790, 724.—TURTON, Syst. Nat., i, 1806, 395.

Scolopax grisea VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 357.—TEMMINCK, Man. d'Orn., ii, 1820, 679; iv, 1840, 437.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v. 1825, 81; Obs. Nom. Wilson's Am. Orn., 1826, [163]; Ann. Lyc. N. Y., ii, 1827, 330; Am. Orn., iv, 1832, 51, pl. 23.—FOX, Newc. Mus., 1827, 371.—FLEMING, Brit. Anim., 1828, 106.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 181.—AUDUBON, Birds Am., fol. ed., iv, 1838, pl. 399.—PEABODY, Rep. Orn. Mass., 1839, 371.—YARRELL, Hist. Brit. Birds, ii, 1843, 621.—SCHLEGEL, Rev. Crit., 1844, 86.—DENNY, Proc. Zool. Soc. Lond., 1847, 39.—HARTING, Birds Middlesex, 1866, 195.

Totanus griseus (not of Bechstein, 1809) VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 406 (environs of New York City).

Macrorhamphus griseus LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 31.—STEPHENS, Shaw's Gen. Zool., xii, 1824, 61, pl. 9.—JARDINE, ed. Wilson's Am. Orn., ii, 1832, 337; Contr. Orn., 1849, 84 (Bermudas, common).—BONAPARTE, Am. Orn., iv, 1832, 51, pl. 23; Geog. and Comp. List, 1838, 52.—JENYNS, Man. Brit. Vertebr., 1835, 207.—GOULD, Birds Europe, iv, 1837, pl. 323 and text; Birds Great Brit., iv, 1872, pl. 76 and text.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 100; Hist. Brit. Birds, iv, 1852, 275.—GRAY, List Birds Brit. Mus., Gallæ, 1844, 109 (Devonshire, England); List Brit. Birds, 1863, 172.—YARRELL, Hist. Brit. Birds, 2nd ed., iii, 1845, 43; 3rd ed., iii, 1856, 46.—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, Aug., Oct.).—REICHENBACH, Gallatores, 1850, pl. 356, figs. 2793–2795.—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (acc. in Europe); xvii, 1875, 445 (New

^a Eleven specimens.

^b Ten specimens.

^c Without examination of specimens it is impossible to tell whether records for the Gulf and Caribbean coasts of Mexico and Central America, as well as certain ones or localities in the interior of the continent, are referable to this form or to *L. g. f. scolopaceus*. These doubtful records have been placed where they seem most probably to belong, but are distinguished by the interrogation mark in each instance.

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- M[acrorhamphus] griseus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxv, 213.—GRAY, Gen. Birds, iii, 1846, 582.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 758.—PARKER, Am. Nat., v, 1871, 169 (Clinton Co., Iowa).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 383 (Illinois); Man. N. Am. Birds, 1887, 151.—NEWTON (A. and E.), Handb. Jamaica, 1881, 116.—COUES, Key N. Am. Birds, 2nd ed., 1884, 622.
- Macrorhamph[us] griseus* GUNDLACH, Journ. für Orn., 1871, 293 (Cuba).
- Macrorhamphus griseus* YARRELL, Proc. Zool. Soc. Lond., 1836, 1 (England).—BONAPARTE, Geog. and Comp. List, 1838, 52.—LAWRENCE, Ann. Lyc. N. Y., vii, 1860, 273 (Cuba); viii, 1866, 293 (vicinity New York City).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 174.
- Scolopax (Macrorhamphus) grisea* BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 330.
- Limnodromus griseus* LEMBEYE, Aves de la Isla de Cuba, 1850, 91.
- Limosa grisea* SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 26.
- Macrorhamphus griseus*, α . var. *griseus* RIDGWAY, Bull. Nutt. Orn. Club, v, July, 1880, 158 (synonymy).
- [*Macrorhamphus griseus*.] Var. *griseus* RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 160.
- Macrorhamphus griseus*, α . *griseus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 196.
- [*Macrorhamphus griseus*] α . *griseus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 195 (diagnosis).
- Macrorhamptus griseus* PELZELN, Orn. Bras., 1870, 313 (Para).
- Macrorhamphus griseus griseus* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 111.—BROOKS and COBB, Auk, xxix, 1912, 400.
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- (?) [*Scolopax*] *cayennensis* GMELIN, Syst. Nat., i, pt. ii, 1789, 661 ("Cayenna") based on *Cayenne Snipe* Latham, Syn., iii, i, 134).
- [*Scolopax noveboracensis* GMELIN, Syst. Nat., i, pt. ii, 1789, 658 (New York; based on *Red-breasted Snipe* Pennant, Arctic Zool., ii, 464; Latham, Gen. Synop. Birds, v, 154).—LATHAM, Index Orn., ii, 1790, 723.—TURTON, Syst. Nat., i, 1806, 395.
- Scolopax noveboracensis* MONTAGU, Trans. Linn. Soc., ix, 1806, 198 (England).—WILSON, Am. Orn., vii, 1813, 45, pl. 58, fig. 1.—AUDUBON, Orn. Biog., iv, 1838, 285, pl. 335; Synopsis, 1839, 249; Birds Am., 8vo ed., vi, 1843, 10, pl. 351.—GIRAUD, Birds Long Is., 1844, 263.—PRATTEN, Trans. Ills. Agric. Soc., 1855, 608 (Illinois).—PUTNAM, Proc. Essex Inst., i, 1856, 213 (Massachusetts).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).
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- Scolopax noveboracensis* SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 398, part.

- A[scolopax] novaeboracensis* MAXIMILIAN, Journ. für Orn., 1859, 93 (Missouri).
Totanus noveboracensis SABINE, in Franklin's Journ. Polar Sea, 1823, 687.
Limnodromus noveboracensis MAXIMILIAN, Beitr. Naturg. Bras., iv, 1832, 717.
Macrorhamphus noveboracensis LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 93.
[Scolopax] nutans GMELIN, Syst. Nat., i, pt. ii, 1789, 659 (Chateaux Bay, coast Labrador; based on *Nodding snipe* Pennant, Arctic Zool., ii 465: =young).
Scolopax leucophaea (not of Latham) VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 358 (North America; type now in coll. Brit. Mus.); Gal. Ois., ii, 1825, 110, pl. 241.
Totanus ferrugineicollis VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 401 (New York; new name for *Scolopax noveboracensis* GMELIN); Tabl. Enc. Méth., iii, 1823, 1099.
Scolopax paykullii NILSSON, Orn. Suecica, ii, 1821, 106, pl. 11 (Lapland).—RICHARDSON, Fauna Bor.-Am., ii, 1831, 398, footnote (crit.).
Macrorhamphus punctatus LESSON, Traité d'Orn., 1831, 556 (New York; north Europe in migration).

LIMNODROMUS GRISEUS SCOLOPACEUS (Say).

LONG-BILLED DOWITCHER.

Similar in coloration to *L. griseus griseus* but larger, with decidedly longer bill, tarsi, and toes, the summer adults with cinnamon color of under parts deeper and much more uniform, covering abdomen, and sides distinctly barred with dusky.

Downy young.—Pileum (except laterally) very dark burnt-umber brown margined laterally by a superciliary stripe of pale dull buffy, this much broader and more decidedly buffy anteriorly; beneath the latter a blackish brown loreal streak, extending from rictus to anterior angle of eye and a broader postocular streak of clear burnt umber or dark brown; auricular region pale buffy with a narrow longitudinal blackish line across middle portion; general color of upper parts dark burnt-umber intermixed with a lighter or clearer tone of the same color, dotted with grayish white, this on back and rump arranged in two rather definite longitudinal parallel stripes; chin and throat very pale brownish buff or dull buffy whitish; rest of under parts pale brownish buffy, deepening into cinnamon on chest.

Adult male.—Wing, 139–145 (141.1); tail, 50–56.5 (54.5); exposed culmen, 52–69.5 (61); tarsus, 33.5–40.5 (37.2); middle toe, 24–28 (26.3).^a

Adult female.—Wing, 136–150 (145.4); tail, 56–61 (58.1); exposed culmen, 62–79 (71.3); tarsus, 36.5–42 (39.8); middle toe, 26–30 (27.7).^a

Western North America; breeding from northwestern Mackenzie to western Alaska, probably also in northeastern Siberia (Tsuktsch-halfon, June; Cape Wankarem; etc.); migrating southward, chiefly through western portion of Mississippi Valley, to Mexico (Matamoros, Tamaulipas; Espia, Sonora; Mazatlán, Sinaloa; Guanajuato; Zacatecas; San Luis Potosí; San Mateo, Oaxaca), Guatemala (Chiapám;

^a Ten specimens.

Lake of Dueñas; San Gerónimo), and Costa Rica (Alajuela), probably to western South America (Medellin, Antioquia, Colombia; Cañar, central Ecuador); occasional, during migration, on Atlantic coast of United States (Scarboro, Maine; Nantucket, Massachusetts; Point Judith, Rhode Island; Long Island, New York, several records; Cape May, New Jersey; Washington, D. C., Georgia, Florida, etc.), also in West Indies (Cuba; Jamaica; Anegada); wintering from Florida, Louisiana, etc., southward; casual in Ireland and Japan (Yokohama).

Limosa scolopacea SAY, in Long's Exped. Rocky Mts., i, 1823, 170 (Engineer Cantonment, near Boyer Creek, near Council Bluffs, Iowa).—BELL, Ann. Lyc. N. Y., v, 1852, 1 (Long Island; crit.).

Macroramphus scolopaceus LAWRENCE, Ann. Lyc. N. Y., v, 1852, 4, pl. 1 (Long Island); vii, 1860, 272 (Cuba; crit.).—McCOWN, Ann. Lyc. N. Y., vi, 1853, 14 (Agua Nueva, s. w. Texas).—CASSIN, Proc. Ac. Nat. Sci. Phila., xiv, 1862, 331 (California).—GUNDLACH, Journ. für Orn., 1875, 322 (Cuba).

[*Macroramphus*] *scolopaceus* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 293 (vicinity New York City).

Macroramphus scolopaceus LAWRENCE, Ann. Lyc. N. Y., v, 1852, 5 (crit.); ix, 1868, 141 (Costa Rica); Mem. Bost. Soc. N. H., ii, 1874, 308 (Mazatlan, Sinaloa, Oct.).—BAIRD, in Rep. Stansbury's Surv. Great Salt Lake, 1852, 334 (Mississippi Valley); Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Espia, Sonora); Cat. N. Am. Birds, 1859, no. 529.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 712.—HENRY, Proc. Ac. Nat. Sci. Phila., 1859, 108 (New Mexico).—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—ALBRECHT, Journ. für Orn., 1861, 213 (Cuba).—BLAKISTON, Ibis, 1863, 132 (Mackenzie River).—COUES, Ibis, 1866, 271 (s. California).—GUNDLACH, Repert. Físico-Nat. Cuba, i, 1866, 354.—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. v, 1867 (vol. ii), pl. 40 and text.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 291 (St. Michaels and Pastolik, Alaska).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873, 455 (Neotropical range).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 445 (coast of Mass.); Bull. Nutt. Orn. Club, iv, 1879, 64 (Nantucket, Massachusetts, Nov. 2).—LAWRENCE (N. T.), Bull. Nutt. Orn. Club, v, 1880, 154-157 (crit.; habits).—DUTCHER, Auk, iii, 1886, 436 (Shinnecock Bay and Long Island City; several specimens, Oct.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 232.—TURNER, Contr. N. H. Alaska, 1886, 146 (St. Michaels, etc., breeding; habits).—NELSON, Rep. N. H. Coll. Alaska, 1887, 100 (shores of Norton Sound; Yukon River; Point Barrow, etc.; habits; crit., etc.).—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 99 (Port Clarence, Alaska, Aug.).—CORY, Auk, iv, 1887, 312 (West Indian localities and references); vii, 1890, 374 (Anegada); Birds West Ind., 1889, 232; Cat. West Ind. Birds, 1892, 92 (Cuba; Jamaica; Anegada).—SMITH and PALMER (W.), Auk, v, 1888, 147 (Washington, D. C., April, 1884).—SCOTT, Auk, v, 1888, 184 (Tarpon Springs and Fort Meyers, Florida, fall and early winter); vi, 1889, 156 (Tarpon Springs and Fort Meyers); ix, 1892, 13 (Jamaica), 212 (Caloosahatchie River, Florida, rare in winter).—BRYANT (W. E.), Proc. Calif. Ac. Sci., ser. 2, ii, 1889, 272 (Magdalena Bay and along the estero, Lower California).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 500 (Manitoba).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 426 (date and number of eggs).—ATTWATER, Auk, ix, 1892, 345 (San Antonio, Texas).—BARRETT-HAMILTON, Bull. Brit. Orn. Club, iv, 1894, p. xviii (Ireland).—ELLIOT,

- N. Am. Shore Birds, 1895, 59, pl. 13.—FLEMING, Auk, xxiii, 1906, 449 (Toronto, Ontario, rare migrant).
- [*Macrorhamphus*] *scolopaceus* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.—CORY, List Birds West Ind., revised ed., 1886, 26.
- Macrorhamph[us] scolopaceus* GUNDLACH, Journ. für Orn., 1871, 293 (Cuba).
- [*Macroramphus*] *scolopaceus* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873, 455 (Central American range).
- Macrorhamphus griseus* . . . var. *scolopaceus* COUES, Check List, 1873, no. 415a.—PALMÉN, Vega-Exped., v, 1887, 302 (Tschuktsch-halfon, e. Siberia, June 20, 23, 1879).
- Macrorhamphus griseus*, var. *scolopaceus* LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 46 (San Mateo, Oaxaca, Feb., Aug.).
- [*Macrorhamphus griseus*.] Var. *scolopaceus* RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 160 (diagnosis).
- [*Macrorhamphus griseus*] b. var. *scolopaceus* RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 159, 160 (synonymy).
- Macrorhamphus griseus scolopaceus* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199 (Cat. N. Am. Birds, no. 527a); Nom. N. Am. Birds, 1881, no. 527a; Cat. Aquat. and Fish-eating Birds, 1883, 10 (range).—COUES, Check List, 2nd ed., 1882, no. 610.—ALLEN and BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 197 (Colorado Springs, Colorado, May 9).—NELSON, Cruise 'Corwin' in 1881 (1883), 85 (Cape Wankarem, Siberia, and n. Siberian coast).—DUTCHER, Auk, i, 1884, 32 (Shinnecock Bay, Long Island, Sept.).—MERRIAM, Auk, ii, 1885, 63 (Point Barrow, Alaska).—LAWRENCE (N. T.), Auk, ii, 1885, 273 (s. side Long Island, Oct. 15, 1884).—AGERSBORE, Auk, ii, 1885, 286 (s. e. South Dakota).—MURDOCH, Rep. Internat. Polar Exped. to Point Barrow, 1885, 110 (Point Barrow, Alaska, breeding).—TACZANOWSKI, Mém. Ac. St. Petersb. (7), xxxix, 1893, 951 (Tschuktschi Peninsula and Cape Vankarema, eastern Siberia).—HOWE, Auk, xviii, 1901, 161 (range, descr., crit., etc.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 111.—SWARTH, Univ. Calif. Pub. Zool., vii, 1911, 49 (Kuiu Island, etc., s. Alaska, May; crit.).—HATHAWAY, Auk, xxx, 1913, 557 (Point Judith, Rhode Island, Sept. 25, 1908).—NORTON, Auk, xxx, 1913, 576 (Scarborough, Maine, Oct., 1912).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 379 (Herschel Island, Aug. 20).
- [*Macrorhamphus*] *g[riseus] scolopaceus* COUES, Key N. Am. Birds, 2nd ed., 1884, 623.
- [*Macrorhamphus griseus*] β. *scolopaceus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 195.
- [*Macrorhamphus griseus*] b. *scolopaceus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 196.
- Breunetes griseus scolopaceus* SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxiv, 398.
- Scolopax longirostris* BELL, Ann. Lyc. Nat. Hist. N. Y., v, 1852, 3 (Long Island, New York).
- Scolopax grisea* ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., vii, 1837, 193 (Columbia River).—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., 1839, 157 (n. w. United States).
- Macrorhamphus griseus* (not *Scolopax griseus* Gmelin) SCLATER, Proc. Zool. Soc. Lond., 1859, 237 (Vancouver Island).—SCLATER and SALVIN, Ibis, 1860, 277 (Guatemala).—SALVIN, Ibis, 1865, 191 (Guatemala).—DRESSER, Ibis, 1866, 36 (s. Texas).—COUES, Proc. Ac. Nat. Sci. Phila., xviii, 1866, 97 (Fort Whipple, Arizona).—BROWN, Ibis, 1868, 425 (Vancouver Island).—DALL

- and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 291 (Pastolik and mouth of Yukon River, Alaska).—FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 171, 181 (Ogden, Utah, after Sept. 25).—RIDGWAY, Bull. Essex Inst., v, 1873, 187 (Colorado).—MERRIAM, Rep. U. S. Geol. Surv. Terr., 1873, 714 (Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1874, 11 (Utah); Zool. Exped. West of 100th Merid., 1875, 453 (Rush Lake, Utah, Oct. 1; Denver, Colorado, July 24; Mimbres, Arizona, Oct. 22).—COUES, Birds Northwest, 1874, 476 (excl. synonymy, part; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 638 (Souris River, North Dakota, Aug.-Oct.)).—ADAMS, Ibis, 1878, 438 (St. Michaels, Alaska; habits).—BELDING, Proc. U. S. Nat. Mus., i, 1879, 440 (Stockton, California, April, Nov.).—HARTLAUB, Journ. für Orn., 1883, 279 (Alaska).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 394, 751, part (St. Michaels, Alaska; Bering Straits; Vancouver Island; California; Yokohama, Japan; etc.).—SALVIN and GODMAN, Biol. Centr. Am., Aves, iii, 1903, 368, part.—CARRIKER, Ann. Carnegie Mus., vi, 1910, 418 (Costa Rica; crit.).
- (?) *Macrorhamphus griseus* BLAKISTON, Ibis, 1863, 131 (Fort Carlton, Saskatchewan).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 748 (Santa Lucia, Peru).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 547 (Medellin, Antioquia, Colombia).—SALVIN, Ibis, 1889, 379 (Cozumel Island, Yucatan).—SETON, Auk, iii, 1886, 151 (Manitoba).—LLOYD, Auk, iv, 1887, 185 (Tom Green and Concho counties, Texas, Sept.).—SENNETT, Auk, v, 1888, 110 (Corpus Christi, Texas, June 11, 1 pair).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, 1900, 44 (Cañar, centr. Ecuador).
- [*Macrorhamphus griseus* COUES, Key N. Am. Birds, 1872, 253, part.—SHARPE, Hand-list, i, 1899, 159, part.
- Macrorhamphus griseus* TACZANOWSKI, Journ. für Orn., 1873, 112 (n. e. Siberia).
- M[acroramphus] griseus* GAMBEL, Journ. Ac. Sci. Phila., 2d ser., i, 1849, 224 (coast of California).
- (?) *Scelopax novoboracensis* (not of Gmelin?) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 398 (Saskatchewan plains).
- Macrorhamphus griseus griseus* BROOKS and COBB, Auk, xxvii, 1911, 467 (e. Alberta; see Auk, xxix, 1912, 400).

Genus MICROPALAMA Baird.

- Micropalama* BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 726. (Type, by original designation, *Tringa himantopus* Bonaparte.)
- Micropalama* (emendation) GRAY, Hand-list, iii, 1871, 48.
- Hemipalama* (not of Bonaparte, 1825) BONAPARTE, Specch. Comp., 1827, 61; Ann. Lyc. Nat. Hist. N. Y., ii, 1828, 316. (Type, *Tringa himantopus* Bonaparte.)

Medium-sized Erolinæ (wing 116–137 mm.) with very long, slender legs (tarsus as long as or longer than slender, greatly compressed, bill, the latter nearly one-third as long as wing), bare portion of tibia half as long as tarsus, and with web between basal phalanges of both middle and outer and middle and inner toes.

Bill slender, straight, very much compressed (except terminally), slightly tapering in lateral profile, the edges parallel in vertical profile to near tip, where distinctly expanded; exposed culmen nearly as long as tarsus; nasal groove rather narrow, extending to base of laterally expanded tip of maxilla, the mandible also with a distinct

though narrow lateral groove; nostril subbasal, small, longitudinally elliptical; feathering at base of bill forming a re-entrant angle at base of culmen, the malar antia slightly but distinctly anterior to loreal antia (nearly in line with middle of nostril), the mental antia about on line with anterior end of nostril. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing and extending far beyond tips of longest tertials. Tail about two-fifths as long as wing, truncate or slightly doubly emarginate, the middle pair of rectrices contracted but not acuminate terminally and projecting beyond the rest; rectrices 12. Tarsus slender, as long as exposed culmen or longer, continuously scutellate anteriorly and posteriorly; bare portion of tibia more than half as long as tarsus, also scutellate before and behind; middle toe, without claw, more than half as long as tarsus, the outer toe decidedly shorter, the inner toe still shorter; anterior toes all connected basally by webs, that between outer and middle toes considerably larger than that between inner and middle toes.

Coloration.—In summer adults, upper parts varied with black, pale gray, and light buff, the first prevailing on back and scapulars; wing-coverts grayish, margined with paler; upper tail-coverts white, marked with dusky streaks and bars; top of head dusky, streaked with whitish; ear-coverts and patch on each side of occiput, light rusty; streak of dusky from eye to corner of mouth; rest of head, with neck, dull white, streaked with dusky, the lower parts whitish barred with dusky. In winter, upper parts uniform gray, except tail-coverts, wings, and tail, which are as in summer; superciliary stripe and lower parts white, the chest, sides of neck, and lower tail-coverts streaked with grayish. Young with back and scapulars dusky, all the feathers margined with pale buff or buffy whitish; wing-coverts margined with pale buff and white; upper tail-coverts nearly immaculate white; lower parts soiled white, the chest and sides more or less strongly washed with buff, and indistinctly streaked with grayish.

Range.—North America, breeding far northward; migrating to Middle and South America. (Monotypic.)

MICROPALAMA HIMANTOPUS (Bonaparte).

STILT SANDPIPER.

Adults in summer.—Pileum and hindneck streaked with dusky and grayish white, the former predominating on crown; back and scapulars variegated with black and pale gray, usually intermixed with buffy, the first prevailing; wing-coverts deep brownish gray margined with much paler gray, the secondaries darker, narrowly edged with white, the proximal ones more broadly margined terminally with white; primaries and primary coverts dusky; rump

brownish gray, the feathers with paler margins and more dusky subterminally; upper tail-coverts white, the longer ones barred or spotted with dusky, the anterior ones more or less streaked with the same; tail rather light brownish gray, the inner webs of rectrices (except middle pair) partly white (on the lateral ones mostly so), irregularly marked, longitudinally, with brownish gray; sides of head and neck and under parts white, the suborbital, subauricular, and malar regions, lower throat, foreneck, and chest narrowly streaked with dusky, the superciliary region, chin, and upper throat nearly immaculate, the breast, sides, flanks, and upper abdomen rather broadly barred with dusky, the under tail-coverts irregularly marked with the same; auricular region and (usually) sides of occiput light cinnamon-rufous; axillars and under wing-coverts white, sparsely marked with grayish; bill black terminally, more brownish basally; iris brown; legs and feet dull yellowish green to yellowish olive or olive-yellowish.

Adults in winter.—Upper parts plain brownish gray, the tail-coverts, etc., as in summer; superciliary stripe and under parts white, the chest, sides of neck, and under tail-coverts narrowly streaked with gray; no bars on under parts nor rufescent auricular area.

Young.—Back and scapulars blackish or dusky, the feathers broadly margined with pale buff or buffy whitish, the middle of back sometimes tinged with rusty; wing-coverts margined with pale buff and white; upper tail-coverts nearly immaculate white; pileum streaked with dusky, pale buff, and grayish, the hindneck nearly uniform gray; under parts soiled white, the chest and sides more or less strongly suffused with buff, the former, together with flanks and sides of neck indistinctly streaked with grayish.

Adult male.—Wing, 116–135 (124.4); tail, 45–53 (51.1); exposed culmen, 35.5–41 (38.5); tarsus, 36–43 (39.9); middle toe, 21–22.5 (21.5).^a

Adult female.—Wing, 120–137 (127); tail, 44–58 (51.5); exposed culmen, 36–44 (39.9); tarsus, 39.5–45 (42.9); middle toe, 21–24 (22.2).^b

North America (except west of Rocky Mountains), Middle America, and greater part of South America; breeding in northern Mackenzie (and probably southward to central Keewatin); migrating southward, chiefly through western portion of Mississippi Valley, through Mexico (Matamoros, Tamaulipas; Laguna de Rosário, Tlaxcala; Zacatecas; San Mateo, Oaxaca), Guatemala (Dueñas), Nicaragua (Momotombo), West Indies (Cuba; Jamaica; Porto Rico; Sombrero; Anegada; St. Bartholomew; Barbados; Grenada), Trinidad, etc., to Peru (Chorillos; Nauta; Yquitos; Rio Ucayali), Ecuador (Babahoyo;

^a Eight specimens.

^b Four specimens.

Vinces), Chile, Bolivia (Falls of Rio Madeira), Brazil (Ilha Grande), Argentina (Los Inglesas and near Esquina, Buenos Aires), Uruguay (Colonia), and Paraguay (Rio Paraguay; Corrientes); wintering occasionally in southern Texas; occasional or casual in Bermudas, Newfoundland, and British Columbia.

Tringa himantopus BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, pt. i, 1826, 157 (Long Branch, New Jersey); ii, 1827, 316; Am. Orn., iv, 1833, 89, pl. 25, fig. 3 (Long Island).—LESSON, Man. d'Orn., ii, 1828, 284; Traité d'Orn., 1831, 560.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 380 (Hayes River, Keewatin).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 138.—AUDUBON, Orn. Biog., iv, 1838, 332, pl. 344; Synopsis, 1839, 235; Birds Am., 8vo. ed., v, 1842, 271, pl. 334.—GIRAUD, Birds Long Isl., 1844, 232.—HURDIS, in Jardine's Contr. Orn., 1850, 10 (Bermudas, Aug. 2, 1848).—M'CALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 222 (Texas).—BLAND, An. Rep. Smithson. Inst. for 1858 (1859), 288 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 54 (Cuba).

Tr[inga] himantopus MARTENS, Journ. für Orn., 1859, 218 (Bermudas).

Tringa (Hemipalama) himantopus BONAPARTE, Specc. Comp., 1827, 61; Am. Orn., iv, 1832, 89, pl. 25.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 138.

Hemipalama himantopus BONAPARTE, Geog. and Comp. List, 1838, 49; Compt. Rend., xliii, 1856, 596.—DE KAY, Zool. N. Y., 1844, 235, pl. 86.—CABANIS, Journ. für Orn., 1856, 418 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 86 (Cuba; crit.).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 561 (Chorillo, centr. Peru).

Totanus himantopus LEMBEYE, Aves de la Isla de Cuba, 1850, 95.—MARCH, Proc. Ac. Nat. Sci., 1864, 67 (Jamaica, April, June, Aug.).—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 356.

T[otanus] himantopus NEWTON (A. and E.), Handb. Jamaica, 1881, 116.

Micropalama himantopus CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 726.—BAIRD, Cat. N. Am. Birds, 1859, no. 536.—SCLATER and SALVIN, Ibis, 1859, 229 (Guatemala); Proc. Zool. Soc. Lond., 1866, 199 (Rio Ucayali, e. Peru); 1873, 309 (Nauta, e. Peru).—SCLATER, Proc. Zool. Soc. Lond., 1860, 290 (Babahoyo, w. Ecuador); 1862, 369 (Mexico).—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 174 (monogr.; Great Slave Lake; Red Fork Arkansas River); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 294 (New England); Check List, 1873, no. 416; 2nd ed., 1882, no. 611; Birds Northwest, 1874, 480 (synonymy, etc.); Rep. U. S. Geol. and Geog. Terr., iv, 1878, 639 (Montana, Aug.).—BLAKISTON, Ibis, 1863, 133 (Hudson Bay).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 100 (Sombbrero); viii, 1866, 294 (vicinity New York City); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo, Oaxaca, Aug.).—DRESSER, Ibis, 1866, 37 (Texas).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—ALLEN, Am. Nat., iii, 1869, 639 (Rye Beach, New Hampshire).—STEVENSON, An. Rep. U. S. Geol. Surv., 1870 (1871), 466 (Fort Bridger, Wyoming).—FULLER, Am. Nat., v, 1871, 727 (Blacksmith Pond, Mass.).—BREWSTER, Am. Nat., vi, 1872, 307 (Cape Cod, Massachusetts, 6 or 7 specs.; Rye Beach, New Hampshire, 10 specs., Aug.).—GUNDLACH, Journ. für Orn., 1874, 313 (Porto Rico); 1875, 326 (Cuba); 1878, 161, 188 (Porto Rico); Orn. Cubana, 1876, 174; Anal. Soc. Esp. Hist. Nat., vii, 1878, 373 (Porto Rico).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (Massachusetts);

xix, 1878, 252-256 (New England records); Bull. Nutt. Orn. Club, iv, 1879, 63 (Nantucket, Massachusetts, July 25, 1878).—REIN, Zoologist, 1877, 476 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 234 (Bermudas, 3 specs.).—MOORE, Proc. Bost. Soc. N. H., xix, 1877, 241 (Bahamas).—MERRELL, Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas).—MAYNARD, Birds E. N. Am., 1879, 378.—JENCKS, Bull. Nutt. Orn. Club, v, 1880, 237 (Newport, Rhode Island, Aug. 2, 1880).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 528); Nom. N. Am. Birds, 1881, no. 528.—CHAMBERLAIN, Bull. Nutt. Orn. Club, vii, 1882, 105 (St. Johns, New Brunswick, Sept. 8, 1881).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am.; i, 1884, 201.—LAWRENCE (N. T.), Auk, ii, 1885, 273 (Far Rockaway, Long Island, Sept. 10, 1883, July 28, 1884, numerous).—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1885, 119 (Bahahoyo, w. Ecuador).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 363 (Nauta; Chorillos).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 178 (Tlaxcala).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 233; 3rd ed., 1910, p. 112.—SMITH (H. M.), Auk, iii, 1886, 140, in text (Patuxent River, Maryland; Sept. 8).—WELLS, List Birds Grenada, 1886, 8.—LLOYD, Auk, iv, 1887, 186 (Tom Green and Concho counties, w. Texas, common in Sept., rare in spring).—THORNE, Auk, iv, 1887, 264 (Fort Lyon, Colorado, common).—BERLEPSCH, Journ. für Orn., 1887, 119 (South America, as far as Chile).—CORY, Auk, iv, 1887, 312 (West Indian localities and references); Birds West Ind., 1889, 233; Cat. West Ind. Birds, 1892, 92.—SENNETT, Auk, v, 1888, 110 (Corpus Christi, Texas, 1 spec., July 3).—BECKHAM, Proc. U. S. Nat. Mus., xi, 1888, 637 (Bexar Co., Texas).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 109 (Falls of Rio Madeira, Bolivia, Oct.).—SCOTT, Auk, vi, 1889, 156 (Key West, Florida, 1 spec., Nov. 1, 1888); ix, 1892, 13 (Jamaica), 212 (Caloosahatchie River, Florida).—BOND, Auk, vi, 1889, 341 (Cheyenne, Wyoming, 2 specs., May 25, 1889).—FILDEN, Ibis, 1889, 493 (Barbados; habits).—CLARK (W. E.), Auk, vii, 1890, 321 (Fort Churchill, Keewatin).—PALMER, (W.), Proc. U. S. Nat. Mus., xiii, 1890, 260 (Penguin Island).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 500 (Manitoba).—MACFARLANE, Proc. U. S. Nat. Mus., xiii, 1891, 426 (Franklin Bay and Rendezvous Lake, east of Fort Anderson, Mackenzie).—BERLEPSCH and STOLEMANN, Proc. Zool. Soc. Lond., 1892, 400, 408 (Ohorillos, Peru).—ATTWATER, Auk, ix, 1892, 232 (San Antonio, Texas).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 78 (Trinidad).—ELLIOT, N. Am. Shore Birds, 1895, 61, pl. 14.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 401 (Zacatecas; Dueñas, Guatemala; Momotombo, Nicaragua; Spanishtown, Jamaica; Anegada; Grenada; Colonia, Uruguay; Yquitos, Peru), 757 (Ilha Grande, Brazil; etc.).—RIVES, Auk, xiv, 1897, 88 (White Sulphur Springs, Virginia, Nov. 2, 1896).—KIRKWOOD, Auk, xvi, 1899, 76 (Baltimore Co., Maryland, Sept. 9, 1898, 3 specs.).—PEARSON, Auk, xvi, 1899, 246 (Cape Hatteras, North Carolina, 1 spec., May 19, 1898).—SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, 1900, 44 (Vinces, w. Ecuador, Sept.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 370 (Matamoros, Tamaulipas; Zacatecas; Laguna del Rosario, Tlaxcala; San Mateo, Oaxaca; Dueñas, Guatemala; Momotombo, Nicaragua; South America; West Indies).—NORTON, Auk, xxv, 1908, 81 (Scarborough, Maine, Sept., 1907).—DABBENE, Orn. Argentina, 1910, 218 (Buenos Aires); Bol. Soc. Phys. B. A., i, 1913, 259 (Los Inglesas, etc., Buenos Aires).—GRANT (C. H. B.), Ibis, 1911, 470 (Los Inglesas and near Esquina, Buenos Aires, Nov., Feb.).—ALLEN (A. A.), Auk, xxx, 1913, 430-432 (Ithaca, New York; habits).—BERTONI, Fauna Parag., 1914, 80 (Rio Paraguay; Corrientes).—HERSEY, Auk, xxxi, 1914, 246 (Ipswich, Massachusetts, and Mastic, Long Island; flight in

August, 1912).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 379 (Demarcation Point, Alaska, May, June; breeding?; Herschel Island, Aug. 2).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 44 (Porto Rico, rare winter visitant).

[*Micropalama*] *himantopus* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—COUES, Key N. Am. Birds, 1872, 254.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.—CORY, Hist. Birds West Ind., revised ed., 1886, 26.—SHARPE, Hand-list, i, 1899, 159.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 70 (New York; Yquitos, Peru).

[*Micropalama*] *himantopus* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 383 (Illinois); Man. N. Am. Birds, 1887, 152.—COUES, Key N. Am. Birds, 2nd ed., 1884, 623.

[*Micropalama*] *himantopus* GRAY, Hand-list, iii, 1871, 48, no. 10298.

Ereunetes himantopus SUNDEVALL, Oefv. K. Vet.-Ak. Förh. Stockholm, 1869, 587, 602 (Porto Rico; St. Bartholomew).—SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxiv, 400, fig.

Tringa douglassii SWAINSON, Fauna Bor.-Am., ii, 1831, 397 (Saskatchewan, Hudson Bay, etc.; =summer adult).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 141.

Tringa douglassii SWAINSON, Fauna Bor.-Am., ii, 1831, pl. 66.

Tringa (Hemipalama) douglassii NUTTALL, Man. Orn. U. S. and Can., ii, 1834, 141.

Tringa (Hemipalama) audubonii NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 140 ("Hayes River, countries of Hudson's Bay, lat. 57").

[*Hemipalama*] *auduboni* GRAY, Gen. Birds, iii, 1845, 578.

[*Hemipalama*] *multistriata* "Licht[enstein]" GRAY, Gen. Birds, iii, 1845, 578.

Hemipalama multistriata LÉOTAUD, Ois. Trinidad, 1866, 466.—PELZEELN, Orn. Bras., iii, Abth., 1870, 311; iv Abth., 1870, 457.

Hemipalma multistriata KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Mich.).

Himantopus nigricollis (not of Vieillot) JARDINE, Contr. Orn., 1849, 84 (Bermudas; see Hurdie, Contr. Orn., 1850, 10).

Genus EREUNETES Illiger.

Ereunetes ILLIGER, Prodrornus Orn., 1811, 262. (Type, by monotypy, *E. petrifactus* Illiger = *Tringa pusilla* Linnæus.)

Symphemia RAFINESQUE, Journ. de Physique, lxxxviii, June, 1819, 418. (Type, *Tringa semipalmata* Wilson = *T. pusilla* Linnæus.)

Hemipalama BONAPARTE, Journ. Acad. Nat. Sci. Phila., v, 1825, 187. (Type, by original designation, *Tringa semipalmata* Wilson = *T. pusilla* Linnæus.)

Heteropoda NUTTALL, Man. Orn. U. S. and Canada, Water Birds, 1834, 135. (Type, by original designation, *Tringa semipalmata* Wilson = *T. pusilla* Linnæus.)

Small Erolinæ (wing 88–102 mm.) with a distinct web between basal phalanges of both outer and middle and inner and middle toes, tarsus not more than one-fourth as long as wing, and bare portion of tibia shorter than middle toe without claw.

Bill compressed, straight, variable in length (exposed culmen decidedly shorter than tarsus to much longer), tapering terminally in lateral profile, but in vertical profile narrow from base, with edges parallel to near tip, where slightly expanded; nasal groove broad basally, contracted distally, extending nearly to base of expanded tip of maxilla; mandible with a narrow and rather indistinct lateral

groove; nostril sub-basal, longitudinally linear, its upper edge operculate; anterior outline of feathering at base of bill descending obliquely downward and forward in a nearly straight line, from base of culmen to lower edge of mandible, the mental antia very slightly anterior to this point. Wing rather long, pointed, the longest primary (outermost) exceeding distal secondaries by a little more than half the length of wing and extending decidedly beyond tips of longest tapering but round-tipped tertials. Tail about two-fifths as long as wing, truncate or slightly rounded (*E. mauri*) or slightly emarginate on each side (doubly emarginate), with four middle rectrices longest; rectrices 12. Tarsus longer than exposed culmen (*E. pusillus*, male) to decidedly shorter (*E. mauri*, female), equal to one-fourth the length of wing or slightly less, continuously scutellate anteriorly and posteriorly; bare portion of tibia shorter than middle toe without claw, scutellate before and behind; middle toe with claw as long as or very slightly shorter than tarsus in *E. pusillus*, to decidedly shorter (about six-sevenths) as long in *E. mauri*; lateral toes decidedly shorter than middle toe, the outer longer than the inner; claws rather long, slender, moderately curved; basal phalanges of anterior toes united by web, that between the outer and middle toes much larger than that between inner and middle toes.

Coloration.—Above mostly brownish gray, beneath whitish. In summer adult spotted with blackish and more or less tinged or intermixed with rusty.

Range.—North America, migrating to South America and West Indies. (Two species.)

KEY TO THE SPECIES OF EREUNETES.

- a. Bill shorter (17–20, averaging 18.6 in male, 18–22, averaging 20.3 in female); summer adults with little of rusty on upper parts, the prevailing color above being grayish brown; chest narrowly streaked with dusky; young with little of rusty or ochraceous on upper parts. (Eastern North America, breeding along Arctic coast westward to Point Barrow, Alaska; Middle and South America in migration.)

Ereunetes pusillus (p. 210).

- aa. Bill longer (20.5–23.5, averaging 22.5 in male, 23–28, averaging 25.9 in female); summer adults with upper parts chiefly rusty or cinnamon-rufous, the chest with broad streaks or triangular spots of dusky; young with much rusty, and ochraceous on upper parts. (Western North America, north to coast of Bering Sea.)

Ereunetes mauri (p. 215.).

EREUNETES PUSILLUS (Linnaeus).

SEMIPALMATED SANDPIPER.

Adults in summer.—Above light grayish brown, or brownish gray, the sides of pileum and some of the scapulars and interscapulars tinged with pale buffy cinnamon, but this sometimes wholly absent; pileum heavily streaked and dorsal region heavily spotted with black, the latter occupying the central portion of each feather; rump,

upper tail-coverts, and middle pair of rectrices dusky, the feathers of rump narrowly margined with brownish gray, the lateral upper tail-coverts mostly white; other rectrices pale brownish gray, narrowly edged with whitish terminally; wing-coverts brownish gray, darker centrally, narrowly margined at tips with paler gray or whitish, the greater coverts narrowly tipped with white; primary coverts and remiges dusky, the outermost primary with white shaft, the remaining primaries with shafts at least partly white; a streaked white superciliary stripe and dusky loreal space, the latter usually distinctly defined along its upper edge but the lower portion broken into streaks, which extend backward across the suborbital region; auricular region streaked with grayish brown; under parts white, the chest and breast tinged with gray and streaked with dusky; bill blackish; iris dark brown; legs and feet dusky (in dried skins).

Winter plumage.—Above brownish gray with dusky shaft-streaks; superciliary stripe and under parts white, the chest faintly streaked.

Young.—Similar to summer adults but chest tinged with pale grayish buff and without well-defined streaks or spots, the scapulars and interscapulars margined terminally with white and the brown usually less rusty.

Downy young.—Forehead dull white to pale grayish buff, divided by a median line of black, this not reaching to bill; crown cinnamon-brown, marbled posteriorly with black and white; occiput mottled whitish; a distinct loreal line of black, sometimes forking just before the eye, the upper branch running toward anterior angle of eye, the other inclining downward; upper parts mixed black and cinnamon-brown, thickly bespangled with fine buffy white tufts, terminating the down-filaments; under parts immaculate dull white passing into pale brownish buffy anteriorly.

Adult male.—Wing, 88–98.5 (93.9); tail, 38–44.5 (41.2); exposed culmen, 17–20 (18.6); tarsus, 19–21 (20.5); middle toe, 15–17.5 (16.2).^a

Adult female.—Wing, 92–101.5 (96.5); tail, 40–44 (41.5); exposed culmen, 18–22 (20.3); tarsus, 20–22 (20.8); middle toe, 15–17.5 (16.5).^b

North and South America and West Indies; breeding in Arctic districts, from northeastern Labrador and mouth of Yukon River, Alaska, to Arctic coast; migrating chiefly eastward of Rocky Mountains; wintering from South Carolina, Texas, etc., southward, throughout West Indies, Central America, and South America, as far as Peru (Paracas Bay) and Patagonia; autumn migrant in Bermudas; casual or occasional in northeastern Siberia, Pribilof Islands, southern Alaska (Thomas Bay), and British Columbia; accidental in Europe.

^a Eleven specimens.

^b Thirteen specimens.

- [*Tringa pusilla* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 252 (Santo Domingo, Greater Antilles; based on *Tringa cinclus dominicensis* Brisson, Orn., v, 1760, 222, pl. 25, fig. 2).—GMELIN, Syst. Nat., i, pt. ii, 1789, 681.—LATHAM, Index Orn., ii, 1790, 737.—TURTON, Syst. Nat., i, 1806, 410, part.
- Tringa pusilla* VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 452.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 117.—AUDUBON, Orn. Biog., iv, 1838, 180, pl. 320.—DENNY, Proc. Zool. Soc. Lond., 1847, 39.—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 55 (Pennsylvania; Haiti; Surinam; Brazil).
- Tringa pusilla* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 90; Obs. Nomencl. Wilson's Am. Orn., 1826, [172].—MAXIMILIAN, Jour. für Orn., 1859, 92.
- Totanus pusillus* VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 412.
- Pelidna pusilla* BONAPARTE, Geog. and Comp. List, 1838, 50.—GOSSE, Birds Jamaica, 1847, 348.—CABANIS, Journ. für Orn., 1856, 422 (Cuba).
- Ereunetes pusilla* CASSIN, Proc. Ac. Nat. Sci. Phila., xii, 1860, 195 (Cartagena, Columbia).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Massachusetts).
- Ereunetes pusillus* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 233 (Labrador; crit.; synonymy; habits); xxiii, 1871, 31 (Fort Macon, North Carolina); Ibis, 1865, 158 (Kansas); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 294 (Essex Co., Mass., and Spanishtown, Jamaica); Am. Nat., iv, 1870, 303; v, 1871, 197 (near Ft. Riley, Kansas); Check List 1873, no. 472; 2nd ed., 1882, no. 612; Birds Northwest, 1874, 481, part; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 639 (North Dakota).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 100 (Sombbrero); viii, 1867, 294 (vicinity New York City).—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Springfield, Massachusetts); Mem. Bost. Soc. N. H., i, 1868, 501 (w. Iowa); Am. Nat., iii, 1869, 638 (Ipswich, Mass., June); Bull. Mus. Comp. Zool., ii, 1871, 355 (e. Florida, in winter); iii, 1872, 182 (e. Kansas).—MCLWARTH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 356; Journ. für Orn., 1874, 313 (Porto Rico); 1875, 327 (Cuba); 1878, 161, 188 (Porto Rico); Orn. Cubana, 1876, 175.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292, part (Nulato, Alaska).—SUNDEVALL, Oefv. k. Vet.-Ak. Förh. Stockholm, 1869, 587 (St. Bartholomew), 602 (Porto Rico).—REID, Zoologist, 1877, 476 (Bermudas, Aug.); Bull. U. S. Nat. Mus., no. 25, 1884, 234 (Bermudas, frequent).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 541); viii, 1884, 177 (Sabanilla, Colombia); ix, 1887, 578 (Swan Island, Caribbean Sea); Nom. N. Am. Birds, 1881, no. 541.—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 146 (2 records for British Islands).—MCLENNAN, Cruise 'Corwin,' 1884, 120 (Kowak River, n. w. Alaska); Cruise 'Corwin' in 1885 (1887), 78 (Noatak River, Alaska, breeding).—DREW, Auk, ii, 1885, 16 (Colorado).—MURDOCH, Auk, ii, 1885, 63, 201 (Point Barrow, Alaska); Rep. Internat. Polar Exped. Point Barrow, 1885, 113 (Point Barrow, breeding).—BECKHAM, Auk, ii, 1885, 143 (Pueblo, Colorado).—AGERSBORG, Auk, ii, 1885, 286 (s. e. South Dakota).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 247 (Koksoak River, Labrador).—SALVIN, Ibis, 1886, 179 (Brit. Guiana).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 246; 3rd ed., 1910, p. 117.—SETON, Auk, iii, 1886, 151 (Red River, Manitoba).—CORY, Auk, iii, 1886, 552 (Grand Cayman); iv, 1887, 313 (West Indian localities and references); vii, 1890, 374 (Anegada); viii, 1891, 48 (Guadeloupe):

- 351 (Inagua, Bahamas); Birds West Ind., 1889, 234; Cat. West Ind. Birds, 1892, 93.—TOWNSEND, Auk, iv, 1887, 12 (Kowak River, Alaska, July, Aug.); Cruise 'Corwin' in 1885 (1887), 91 (Kowak River, 1 spec., July 20).—DWIGHT, Auk, iv, 1887, 16 (Cape Breton Island, Nova Scotia, Aug.).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 628 (Grenada).—STAHL, Ornith., vol. 3, 1887, 452 (Porto Rico).—EVERMANN, Auk, v, 1888, 349 (Carroll Co., Indiana, April).—SEEBOHM, Geog. Distr. Charadriidae, 1888, pp. xxiv, 402, fig.—COOKE, Bird Migr. Miss. Val., 1888, 94.—DUTCHER, Auk, vi, 1889, 128 (Little Gull Island).—SCOTT, Auk, vi, 1889, 157 (Gulf coast Florida, abundant winter resident; Key West, June, July, Aug.); ix, 1892, 13 (Jamaica), 212 (Caloosahatchie River, Florida, winter resident).—CLARKE (W. E.), Auk, vii, 1890, 32 (Fort Churchill, Keewatin).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 501 (Moose River, Manitoba).—WARREN, Birds Pennsylvania, 1890, 87.—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 477. (Franklin Bay, Mackenzie).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 77 (Trinidad); xvi, 1902, 234 (Homer, Cook Inlet, Alaska, 1 spec., Aug. 29).—ELLIOT, N. Am. Shore Birds, 1895, 98, pl. 28.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 514, 766, part.—BIGELOW, Auk, xix, 1902, 28 (coast n. e. Labrador, breeding; descr. downy young).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 382, part.—RILEY, Smithsonian Misc. Coll., vol. 47, 1904 (Barbuda, Sept. 22).—EIFFIG, Auk, xxii, 1905, 239 (Southampton Island, Arctic America, breeding; descr. eggs).—HELLMAYR, Abh. k. B. Akad. Wiss., ii Kl., xxii Bd., iii Abt., 1905, 715 (crit.).—BANGS, Proc. Bost. Soc. N. H., xix, 1906, 102 (San Jose, Costa Rica, Sept. 15).—BERLEPSCH, Novit. Zool., xv, 1908, 307 (Cayenne).—VERRILL (A. E. and A. H.), Proc. Ac. Nat. Sci. Phila., 1909, 356 (Sanchez, Santo Domingo).—REISER, Denkschr. Mat. Nat. Kl. K. Ak. Wiss. Wien, 1910, 95 (coast n. e. Brazil).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 421 (Coronado de Terraba, Costa Rica).—DABBENE, Orn. Argentina, 1910, 219 (Patagonia); Bol. Soc. Phys. B. A., i, 1913, 260 (Patagonia).—SWARTH, Univ. Calif. Pub. Zool., vii, 1911, 52 (Thomas Bay, s. Alaska, Aug. 19, 1909; crit.).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 380 (between Collinson Point and Herschel Island, Demarcation Point, etc., Arctic coast, breeding; habits; descr. nest).—HERSEY, Smithsonian Misc. Coll., lrvii, no. 2, 1916, 24 (Imaruk Basin, Alaska, 2 specs., July 28).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 43 (Porto Rico, common winter visitant; food).—BARTSCH, Proc. Biol. Soc. Wash., xxx, 1917, 132 (Haiti).
- [*Ereunetes pusillus* COUES Key N. Am. Birds, 1872, 254, part.—CORY, List Birds West Ind., revised ed., 1886, 26.—SHARPE, Hand-list, i, 1899, 162, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 71, part.
- E[reunetes] pusillus* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois); Man. N. Am. Birds, 1887, 161.—COUES, Key N. Am. Birds, 2nd ed., 1884, 624.
- [*Ereunetes pusillus*] a. *pusillus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 205, 206.
- Ereunetes pusillus pusillus* HELLMAYR, Novit. Zool., xiii, 1906, 54 (Seelet and Caroni Swamp, Trinidad).—HANTZSCH, Journ. für Orn., 1908, 357 (n. e. Labrador).
- Ereunetes petrificatus* ILLIGER, Prodr. Orn., 1811, 262 (Bahia, Brazil).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 724.—BAIRD, Cat. N. Am. Birds, 1859, no. 535.—SCLATER and SALVIN, Ibis, 1859, 229 (Dueñas, Guatemala).—NEWTON (A. and E.), Ibis, 1859, 257 (St. Croix).—BLAKISTON, Ibis, 1863, 132 (Hudson Bay; Mackenzie River).—MARCH, Proc. Ac. Nat. Sci. Phila., 1864, 68 (Jamaica).—SALVIN, Ibis, 1865, 191 (Guatemala); (?) Proc. Zool. Soc. Lond., 1883, 429 (Paracas Bay, Peru).—DRESSER, Ibis, 1866, 37 (Texas).—

- BUTCHER, Proc. Ac. Nat. Sci. Phila., xx, 1868, 150 (Laredo, Texas).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England).—ALLEN, Bull. Essex Inst., viii, 1876, 83 (Marajo Island, Lower Amazon).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 238 (Antigua), 242 (Barbuda), 461, 488 (Guadeloupe); iii, 1880, 256 (Dominica).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 362.
- [*Ereunetes*] *petrificatus* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145, part.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 328 (Puerto Cabello, Venezuela).
- Tringa semipalmata* WILSON, Am. Orn., vii, 1813, 131, pl. 63, fig. 4 (Lake Champlain, New York; coast New Jersey).—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 462.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 88 (crit.); Obs. Nomen. Wilson's Am. Orn., 1826, [170]; Ann. Lyc. N. Y., ii, 1826, 158 (crit.); ii, 1827, 316.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 381 (Severn River; nest and eggs).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 136.—LESSON, Traité d'Orn., 1831, 560.—KAUP, Thierr., ii, pt. i, 1836, 320.—AUDUBON, Orn. Biog., v, 1839, 110, pl. 405; Synopsis, 1839, 236; Birds Am., 8vo ed., v, 1842, 277, pl. 336.—PEABODY, Rep. Orn. Mass., 1839, 368.—GIRAUD, Birds Long Is., 1844, 239.—JARDINE, Contr. Orn., 1849, 84 (Bermudas, Aug., Sept.).—HURDIS, in Jardine's Contr. Orn., 1850, 9 (Bermudas, Aug., Sept.).—THOMPSON, Nat. Hist. Vermont, 1853, App., 27.—PRATTEN, Trans. Ills. Agric. Soc., i, 1855, 607 (Illinois).—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Massachusetts).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas).—MARTENS, Journ. für Orn., 1859, 218 (Bermudas).—BLAND, Ann. Rep. Smithsonian. Inst. for 1858 (1859), 258 (Bermudas).—WILLIS, Ann. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—FINSON, Proc. Zool. Soc. Lond., 1870, 588 (Trinidad; crit.).
- Tr[inga] semipalmata* ALBRECHT, Journ. für Orn., 1861, 56 (Bahamas).
- [*Tringa (Hemipalama)*] *semipalmata* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 88.—LESSON, Traité d'Orn., 1831, 560.
- Heteropoda semipalmata* BONAPARTE, Geog. and Comp. List, 1838, 49.—DE KAY, Nat. Hist. N. Y., Zool., i, 1844, 236, pl. 86, fig. 195.—GRAY, Gen. Birds, iii, 1845, pl. 156, fig. 1.—REICHENBACH, Gallatores, 1850, pl. 74, figs. 594, 595.—LÉOTAUD, Ois. Trinidad, 1866, 477.
- Hemipalama semipalmata* LEMBEYE, Aves de la Isla de Cuba, 1850, 96.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).
- [*Ereunetes*] *semipalmatus* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 758.
- Ereunetes semipalmatus* CABANIS, Journ. für Orn., 1856, 419 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 37 (Cuba; crit.).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 375, footnote.—PELZELN, Orn. Bras., 1870, 312, 458 (Cajutuba).
- Tringa brevirostris* SPLX, Av. Bras., ii, 1825, 76, pl. 93 (Brazil; see Hellmayr, Abh. k. B. Akad. Wiss., ii Kl., xxii Bd., iii Abt., 1905, 715).
- Pelidna brissoni* LESSON, Man. d'Orn., ii, 1828, 277 (St. Domingo).
- Hemipalama minor* LEMBEYE, Aves de la Isla de Cuba, 1850, 97 (Cuba; ex Gundlach, manuscript).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 303 (Cuba).
- [*Symphemia*] *atlantica* RAFINESQUE, Journ. de Physique, lxxxviii, June, 1819, 418, in text (=nomen nudum).
- [*Symphemia*] *melanura* RAFINESQUE, Journ. de Physique, lxxxviii, June, 1819, 418, in text (Kentucky; =nomen nudum).

? [*Ereunetes*] *cabanisi* LOCHENSTEIN, Nom. Mus. Berol., 1854 92 (North America).
Ereunetes occidentalis (not of Lawrence) MURDOCH, Rep. Exped. Point Barrow,
 1885, 148 (May-Sept., breeding).

EREUNETES MAURI Cabanis.

WESTERN SANDPIPER.

Similar to *E. pusillus*, but bill averaging much longer; summer adults much more rufescent above and more heavily streaked or spotted on anterior underparts, and young with rusty ochraceous or cinnamon predominating on upper parts.

Adults in summer.—Above bright rusty cinnamon, the feathers black centrally, the cinnamon or rusty sometimes uniform along sides of crown; wing-coverts grayish brown or brownish gray with darker narrow shaft-streaks and ill-defined paler margins, the greater coverts tipped with white; remiges and primary coverts darker grayish brown, the primaries with white shafts; rump, upper tail-coverts, and middle rectrices dusky grayish brown, the feathers of rump more or less distinctly margined with paler, the lateral upper tail-coverts mostly white; remaining rectrices pale brownish gray, narrowly margined with whitish distally; a superciliary stripe of white streaked with dusky grayish, this bordered below by a stripe of light rusty or cinnamon on side of head, involving more or less of loreal, sub-orbital and auricular regions; rest of head white, narrowly streaked, except on chin and upper throat, with grayish dusky, the sides of neck and foreneck similarly but more broadly streaked; rest of underparts white, the chest and sides thickly marked with mostly V-shaped or sagittate spots of dusky; axillars and under wing-coverts (except along edge of wing) immaculate white; bill brownish black; iris dark brown; legs and feet dusky (in dried skins).

Winter plumage.—Above nearly plain brownish gray or grayish brown, the feathers with narrow shaft-streaks of darker; superciliary region and underparts white, the chest faintly streaked with grayish or dusky. (Distinguishable from the corresponding plumage of *E. pusillus* only by the greater average length of the bill.)

Young.—Similar to that of *E. pusillus*, but with rusty ochraceous or cinnamonaceous predominating on pileum and dorsal region.

Downy young.—Similar to that of *E. pusillus*, but the rusty areas on upper parts more extended and darker (more castaneous). Forehead, irregular superciliary stripe, and sides of head generally dull white, more or less tinged with brownish buff, especially on anterior portion of head; forehead divided medially by an irregular streak of brownish black; a very narrow loreal streak of black, extending near bill to eye, and beneath this a rather smaller rectal streak; crown and occiput light chestnut-brown or russet, margined with black and with several irregular spots of pale buffy; back, rump, and flanks mixed black and russet (the latter predominating on flanks) minutely

spangled or dotted with pale buffy; underparts immaculate dull white, more or less tinged with buff, especially on foreneck (throat to chest, inclusive).

Adult male.—Wing, 91–99 (94.6); tail, 37.5–42 (40.2); exposed culmen, 20.5–23.5 (22.5); tarsus, 20.5–22 (21.2); middle toe, 15–16.5 (15.7).^a

Adult female.—Wing, 90–99.5 (96.4); tail, 38–47 (41.7); exposed culmen, 23–28 (25.9); tarsus, 21–24 (22.1); middle toe, 16–17 (16.6).^b

North and Middle America and northern South America; breeding along Bering Sea coast of Alaska, from mouth of Yukon River to Kotzebue Sound; migrating southward, chiefly westward of Rocky Mountains, but not uncommonly along Atlantic coast, from Massachusetts southward; wintering from North Carolina and southern Lower California to Colombia (Sabanilla), Peru (Paracas Bay), Venezuela (Margarita Island), and Trinidad.

Heteropoda mauri BONAPARTE, Geog. and Comp. List, 1838, 49 (South and central parts [N. Am.]; = *nomen nudum*).—GUNDLACH, Journ. für Orn., 1856, 419 (Cuba).—LÉOTAUD, Ois. Trinidad, 1866, 480.

Ereunetes mauri CABANIS, Journ. für Orn., 1856, 419 (Cuba; crit.).—ALLEN, Auk, xxiii, 1906, 98, in text (crit. nomencl.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 117.—CARRIKER, Ann. Carnegie Mus., vi, 1910, 421 (Barranca de Punta Arenas, Costa Rica, Aug. 12 and 20, 1906; La Herradura de Punta Arenas, Aug. 12).—HATHAWAY, Auk, xxx, 1913, 551 (Long Island records).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 381 (East Cape and Cape Serdze, n. e. Siberia, July 14, 16).—HERSEY, Smithsonian Misc. Coll., lxvi, no. 2, 1916, 24 (shores of Norton Sound).—BROOKS (A.), Auk, xxxiv, 1917, 36 (Chilliwack, Brit. Columbia, common in fall, rare in spring; crit.).—BARTSCH, Proc. Biol. Soc. Wash., xxx, 1917, 132 (Haiti).

[*Ereunetes*] *maurii* BONAPARTE, Compt. Rend., xliii, 1856, 596.—GRAY, Handlist, iii, 1871, 51, no. 10321.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 328 (Guiana).

[*Ereunetes petrificatus*] var. *mauri* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba). *Tringa semipalmata* (not of Wilson) TOWNSEND, Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).

(?) *Tringa cabanisi* "Lichtenstein" CABANIS, Journ. für Orn., 1856, 420 (crit.).

Ereunetes occidentalis LAWRENCE, Proc. Ac. Nat. Sci. Phila., xvi, April, 1864, 107 (California; Oregon; coll. G. N. Lawrence).—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 7, 1867 (vol. ii), pl. 41; N. Am. Shore Birds, 1895, 100, pl. 27.—RIDGWAY, Proc. U. S. Nat. Mus., vii, 1884, 178 (Sabanilla, Colombia, March).—HENSHAW, Auk, ii, 1885, 384 (Boston Harbor, Massachusetts, Aug. 27, 1870).—SMITH (H. M.), Auk, ii, 1885, 385 (Piney Point, Maryland, Aug., 1885, common).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 247.—EVERMANN, Auk, iii, 1886, 91 (Ventura Co., California).—SCOTT, Auk, iii, 1886, 386 (Tucson, Arizona); v, 1888, 184 (Florida, regular winter visitant); vi, 1889, 157 (Gulf coast Florida in winter); ix, 1892, 212 (Coloosahatchie River, Florida, winter).—TURNER, Contr. N. H. Alaska, 1886, 148 (St. Michaels; Aleutian Islands; habits).—NELSON, Rep. N. H. Coll. Alaska, 1887, 113 (St. Michaels, etc.; habits).—LLOYD, Auk, iv, 1887,

^a Twelve specimens.

^b Eleven specimens.

- 186 (Concho and Tom Green counties, Texas).—TOWNSEND, Proc. U. S. Nat. Mus., x, 1887, 163, 198 (near Red Bluff, Calif.).—COOKE, Bird Migr. Miss. Val., 1888, 94.—BREWSTER, Auk, vi, 1889, 69 (Monomoy Island, Massachusetts, 4 specs., July 19, Sept. 1 and 19; Long Island, Boston Harbor, Aug. 27, 1870).—MILLER (G. S.), Auk, vii, 1890, 227 (Cape Cod, Massachusetts, Sept. 2, 1889).—LAWRENCE (R. H.), Auk, ix, 1892, 43 (Grays Harbor, Washington, May 11, flocks; summer resident?).—TREAT, Auk, ix, 1892, 359 (Lynn, Massachusetts, 3 specs., Sept. 4, 1889).—CORY, Cat. West Ind. Birds, 1892, 93 (Cuba).—TACZANOWSKI, Mém. Ac. Imp. Sci. St. Petersb., (7), xxxix, 1893, 890 (Tchuktche Peninsula, n. e. Siberia).—STONE, Birds E. Penn. and N. J., 1894, 75 (Cape May and Atlantic City, New Jersey).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 77 (Trinidad).—PALMER (W.), Auk, xi, 1894, 325 (Alexandria Co., Virginia, Sept. 8 and 11, 1894).—MACKAY, Auk, xiii, 1896, 88 (Nantucket I., Massachusetts, Aug. 29, 1895; 4 specs.).—BAILY, Auk, xiii, 1896, 174 (Cape May Co., New Jersey, Sept. 1-15, 1895; more numerous than *E. pusillus*).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 656 (Margarita I., Venezuela).—BURNS, Wilson Bull., no. 12, 1897, 6 (near Atlantic City, New Jersey, 1 spec., Aug. 31, 1891).—BRAISLIN, Auk, xvi, 1899, 191 (Shinnecock Bay, Long Island, fall 1897; South Bay and Great South Bay, July; Jamaica Bay, Sept.).—WAYNE, Auk, xxiii, 1906, 58 (coast South Carolina, whole year except May and June).
- [*Ereunetes*] *occidentalis* CORY, List Birds West Ind., revised ed., 1886, 26.
- E[reunetes] occidentalis* RIDGWAY, Man. N. Am. Birds, 1887, 162.
- Eurenetes occidentalis* ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 7, 1867 (vol. ii), text to pl. 41.
- Ereunetes pusillus* . . . var. *occidentalis* COUES, Check List, 1873, no. 417a.
- Ereunetes pusillus*, var. *occidentalis* LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo and Tehuantepec City, Oaxaca, Aug., Oct., Feb.).
- Ereunetes pusillus occidentalis* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 201 (Cat. N. Am. Birds, no. 541a); Nom. N. Am. Birds, 1881, no. 541a.—COUES, Check List, 2nd ed., 1882, no. 613.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 529 (San Quentin Bay, Lower California), 545 (Cape San Lucas district).—BECKHAM, Auk, ii, 1885, 110 (Virginia Beach, Virginia, Sept. 6 and 7, 1884, abundant).—SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxiv, 408.—HELLMAYR, Novit. Zool., xiii, 1906, 54 (Seelet, Trinidad).
- E[reunetes] pusillus occidentalis* BAIRD, BREWER, and RIDGWAY, Water Birds. N. Am., i, 1884, 207.
- [*Ereunetes pusillus*] b. *occidentalis* BAIRD, BREWER, and RIDGWAY, Water Birds, N. Am., i, 1884, 205, 206.
- E[reunetes]-p[usillus] occidentalis?* COUES, Key N. Am. Birds, 2nd ed., 1884, 625.
- Ereunetes pusillus* (not *Tringa pusilla* Linnaeus) COUES, Proc. Ac. Nat. Sci. Phila., 1866, 97 (Arizona); Ibis, 1866, 269 (s. California); Birds Northwest, 1874, 481, part.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292, part (St. Michaels, Kodiak, and Sitka, Alaska).—STEVENSON, Rep. U. S. Geol. Surv. Terr., 1871, 466 (North Platte R., Wyoming).—HENSHAW, Ann. Lyc. N. Y., xi, 1874, 11 (Utah).—BELDING, Proc. U. S. Nat. Mus., i, 1878, 395 (centr. California).—NELSON, Cruise 'Corwin' in 1881 (1883), 88, part (localities mentioned except Point Barrow).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 514, part.—PALMÉN, Vega-Exped., Fogelf., 1887, tab. 3.—SALVIN and GODMAN, Biol. Centr.-Am., Aves., iii, 1903, 382, part.—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 71 (Monterey Bay, California).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. 1, 1913, 56, in text (Cocos Island, Sept. 13).

- [*Ereunetes*] *pusillus* COUES, Key N. Am. Birds, 1872, 254, part.—SHARPE, Hand-list, i, 1899, 162, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 71, part (New Westminster, Brit. Columbia; Fort Tejon, California).
Ereunetes petrificatus (not of Illiger) XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—(?) SALVIN, Proc. Zool. Soc. Lond., 1883, 429 (Paracas Bay, Peru).—(?) TACZANOWSKI, Orn. du Pérou, iii, 1886, 362.
 [*Ereunetes*] *petrificatus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145, part.
Ereunetes petrificatus BROWN, Ibis, 1868, 425 (Vancouver Island).

Genus MACHETES Cuvier.

- Pavoncella* LEACH, Syst. Cat. Mam. and Birds Brit. Mus., 1816, 29. (Type, *Tringa pugnax* Linnæus.)
Machetes CUVIER, Règne Anim., i, 1817, 490. (Type, by original designation, *Tringa pugnax* Linnæus.)
Philomachus GRAY, List Gen. and Subgen. Birds, 1841, 89. (Type, *Tringa pugnax* Linnæus.)
Machophilus THIENEMANN, Rhea, Heft i, 1846, 117. (Substitute for *Philomachus* Gray.)

Large Erolinæ (wing 148–186 mm.) with outer and middle toes united at base by a small (but distinct) web; tarsus much longer than middle toe with claw; sexually dimorphic, the male being much larger than the female and ornamented by a conspicuous ruff of elongated, erectile feathers.

Bill about as long as head (not more than one-fifth as long as wing), the exposed culmen shorter than middle toe with claw, straight, tapering terminally in lateral profile, in vertical profile with edges nearly parallel to the very slightly expanded tip, the latter smooth (not punctulate) and slightly though distinctly decurved; nasal groove broad basally, gradually tapering distally, where extending nearly if not quite to base of slightly expanded and decurved tip of maxilla; nostril sub-basal, linear or narrowly elliptical, longitudinal. Malar antia on the same vertical line as loreal and frontal feathering, the mental antia nearly even with anterior end of nostril. Wing moderate, pointed, the longest primary (outermost) exceeding distal secondaries by about half the length of wing, the elongated, tapering tertials extending nearly if not quite to tip of longest primary (at least in adult males). Tail more than one-third (but much less than one-half) as long as wing, slightly but distinctly rounded; rectrices 12. Tarsus much longer than bill, much longer than middle toe with claw, a little more than one-fourth as long as wing, continuously scutellate both before and behind; middle toe, with claw, longer than exposed culmen, the lateral toes decidedly shorter, the outer slightly longer than the inner; a distinct though small web between first phalanges of middle and outer toes.

Plumage and coloration.—Sexually dimorphic, the adult male decidedly larger than the female and conspicuously different in

plumage and coloration, the neck adorned with a conspicuous erectile ruff of elongated feathers, the loreal and frontal regions naked (or partially so) and papillose. Adult males variously colored, scarcely two individuals being nearly alike in coloration; adult female grayish brown with paler margins to feathers, passing into white on abdomen and posterior underparts, the tertials and middle rectrices more or less barred or transversely spotted with black or dusky.

Range.—Chiefly Palearctic or Eurasian, but occurring rarely in North America. (Monotypic.)

MACHETES PUGNAX (Linnaeus).

RUFF.

Adult male in summer.—Back and scapulars variegated with black, gray, buffy, and whitish, the first predominating, the whitish in form of irregular bars; wing-coverts grayish brown indistinctly margined with paler, the secondaries similar but with narrow though distinct edgings of white; primary coverts and primaries darker grayish brown, indistinctly paler at tips (narrowly), their shafts white or yellowish white; tertials broadly barred with black and grayish brown, the latter intermixed with whitish; rump grayish brown, the feathers with indistinct shaft-streaks of darker, and paler margins; median upper tail-coverts blackish distally, narrowly barred with pale-buffy, pale brownish gray, or dull whitish and tipped with brownish gray, the lateral upper tail-coverts immaculate white; middle rectrices brownish gray, broadly but indistinctly barred with dusky, narrowly tipped with dull whitish or buffy, and with a rather large subterminal spot of black, the lateral rectrices rather light plain grayish brown; abdomen, under tail-coverts, axillars, and greater part of under wing-coverts immaculate white. In coloration of the head, neck, chest and breast, varying remarkably, scarcely two specimens being nearly alike; the occipital tufts or "cape" usually glossy black, ochraceous, or whitish, the "ruff" chestnut, glossy black, buff, ochraceous, or whitish, and these colors maybe either plain, streaked barred, minutely freckled, or otherwise marked;^a bill yellowish orange passing into brownish or dusky terminally; papillæ of head reddish; iris brown; legs and feet yellow (in life).

Adult male in winter.—Pileum and hindneck light grayish brown, the former (at least on crown) narrowly streaked with darker; scapulars, interscapulars, rump, median upper tail-coverts, and wing-coverts grayish brown, the feathers darker centrally and with paler margins, the greater wing-coverts tipped with white; sides of head and neck, together with foreneck, chest, and sides, light grayish brown,

^a The adult males contained in the collection of the British Museum in 1896, numbering between thirty and forty specimens, represented no less than *fifteen* distinct types of coloration. (See Cat. Birds Brit. Mus., xxiv, 1896, 504, 505.)

the feathers tipped (more broadly on chest and sides) with whitish or brownish white; chin and upper throat mostly white; otherwise as in summer, but occipital tufts ("cape") and ruff wholly absent; bill brownish; legs and feet greenish yellow (in life).

Adult female in summer.—Similar to the winter male but upper parts much darker, the feathers of back, scapulars, etc., blackish, often glossed with purplish, margined with buff or cinnamon, the tertials barred with blackish and rusty, feathers of chest, etc., blackish or purplish black centrally, and rectrices barred on distal portion with cinnamon or rusty; bill blackish; legs and feet greenish gray (in life).

Adult female in winter.—Similar to the winter male but much smaller.

Young male.—"Resembles the winter plumage of the adults, but is much more tawny, the feathers of the upper surface being blackish, with sandy-buff or whitish margins to the feathers; the lower back, rump, and upper tail-coverts dusky brown, mottled with darker brown centres to the feathers and with sandy-buff edges; wing-coverts like the back; the primary-coverts with narrow sandy-buff edges and whitish tips; bastard wing, primary-coverts, and quills blackish, fringed with white at the ends and on the outer webs of the secondaries, the inner ones edged with sandy-buff with subterminal black markings, before which are some rufous bars; tail-feathers dark brown, with a few mottlings and bars of sandy-buff near their ends; crown of head sandy-rufous, with dark brown streaks; lores and an eyebrow pale buff, with very narrow dusky streaks; the hindneck ashy washed with sandy-buff and mottled with dusky brown centres to the feathers; feathers in front of the eye and sides of the face cinnamon-buff, like the lower throat and the foreneck, the chin whiter; chest and sides of body ashy grey, washed with cinnamon-buff; the center of the breast, abdomen, under tail-coverts, axillaries, and under wing-coverts white."^a

Downy young.—Forehead, sides of head and neck (including superciliary region), and under parts pale pinkish buff, paler on chin, throat, and abdomen, deepening into nearly cinnamon-buff on foreneck and chest; a narrow streak of brownish black extending from above base of nasal fossa backward and slightly downward; a small spot or short streak of black on anterior portion of malar region; crown and occiput irregularly blotched or marbled with black, the interspaces grayish buffy; an irregular large blotch of brownish black on each side of occiput; nape plain dull cinnamon-buff or clay color, the hindneck similar but paler and duller and irregularly marbled with dusky; back, wings, and rump mixed black and light brown (light cinnamon-brown or sayal brown), thickly spangled or dotted with buffy whitish.

^a Sharpe, Cat. Birds Brit. Mus., xxiv, 505, 506.

Adult male.—Wing, 171.5–186 (181.6); tail, 65–70 (68); exposed culmen, 33–35.5 (34.5); tarsus, 47–52.5 (50); middle toe, 31–34 (32.4).^a

Adult female.—Wing, 148–154 (151.2); tail, 52–58.5 (54.7); exposed culmen, 29.5–32 (31); tarsus, 38.5–43 (40.9); middle toe, 27–29 (28.3).^b

Europe, Asia, and Africa; breeding in northern and central Europe and Asia, from the British Islands eastward at least to the Taimyr Peninsula, Siberia, and western Dauria, probably to Kamchatka, including the Commander Islands, and from the Valley of the Danube and the Kirghiz steppes to the Arctic coast; migrating southward to southern Africa, Madeira and Canary Islands, northern India, Burma, and, rarely, Ceylon and Borneo (Labuan); occasional in eastern North America (Maine, New Hampshire, Massachusetts, Rhode Island, Long Island, District of Columbia, Virginia, North Carolina, Ohio, Indiana, and Ontario^c); casual in Barbados and Dutch Guiana (Surinám).

[*Tringa pugnax* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148 (Sweden; ex Fauna Suecica, 175); ed. 12, i, 1766, 247.—BRÜNNICH, Orn. Bor., 1764, 50.—SCOPOLI, Bemerk. ed. Gunther, 1770, 113.—GMELIN, Syst. Nat., i, pt. ii, 1789, 669.—LATHAM, Index Orn., ii, 1790, 725.—TURTON, Syst. Nat., i, 1806, 402.

Tringa pugnax BODDAERT, Tabl. Pl. Enl., 1783, 19 (Pl. Enl., pl. 305).—SCHAEFFER, Mus. Orn., 1789, 52.—TEMMINCK, Cat. Syst., 1807, 171; Man. d'Orn., ii, 1820, 631.—BULLOCK, Lond. Mus., 1813, 65.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 458, pl. B29, fig. 2.—ROUX, Orn. Prov., 1825, pls. 290–292.—WERNER, Atlas, Gallatores, 1827, pl. 14.—FOX, Newcastle Mus., 1827, 87.—FLEMING, Brit. Anim., 1828, 110.—LESSON, Traité d'Orn., 1831, 560.—MÉNÉTRIÉS, Cat. Rais. Caucas., 1832, 51.—GOULD, Proc. Zool. Soc. Lond., 1834, 51 (Trebizond, Persia).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 130 (Long Island, New York).—KAUP, Thierr., ii. pt. i, 1836, 318.—EWER, Proc. Zool. Soc. Lond., 1842, 93 (India).—BLYTH, Proc. Zool. Soc. Lond., 1842, 94 (Europe; India).—YARRELL, Brit. Birds, ii, 1843, 573.—SCHLEGEL, Rev. Crit., 1844, p. xci; Vog. Nederl., 1854, pl. 236; Dier. Nederl. Vogels, 1861, pl. 23, figs. 5–8, 8a; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 51.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland).—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 208 (Madeira).—HOMEYER, Journ. für Orn., 1870, 424 (e. Siberia).—BLANFORD, East. Persia, ii, 1876, 284.—LEGGE, Ibis, 1878, 204 (Kirinde, Ceylon, March).—SEVERTZOW, Ibis, 1883, 75 (Kara-Kul and Rau-Kul lakes, and Alichur River, centr. Asia).—IRBY, Key List Brit. Birds, 1888, 48.—GÄTKE, Vogelw. Helgoland, 1891, 526.

Tringa pugnax PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 190.

Pavonella pugnax LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 29.—STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 38 (crit. nomencl.); x, 1887, 133 (Bering Island); xiv, 1891, 492 (Giatoku, Hondo, Japan); xv, 1892, 292 (Yezo,

^a Ten specimens.

^b Nine specimens.

^c For records for eastern North America see Deane, Auk, xxii, 1905, 410, and Palmer (T. S.), Auk, xxiii, 1906, 98.

- Japan); Bull. U. S. Nat. Mus., no. 29, 1885, 317, 337, 346 (Bering Island, Kamchatka).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 260.—BRUSINA, Motr., etc. (Orn. Croatia), 1890, 90.—CORY, Cat. West Ind. Birds, 1892, 94 (Barbados).—BRIMLEY, Auk, ix, 1892, 299 (near Raleigh, North Carolina, 1 spec., May 6, 1892).—PALMER (W.), Auk, xi, 1894, 325 (Alexandria Co., Virginia, 1 spec., Sept. 3, 1894).—ELLIOT, N. Am. Shore Birds, 1895, 137, pl. 43.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 560, 764.—JESSE, Ibis, 1903, 164 (Lucknow, India).—NEUMANN, Journ. für Orn., 1904, 332 (Menagascha near Adis Abeba, Abyssinia).—HARTERT, Ibis, 1904, 422 (mouth of Lena R., Siberia).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 238 (Gichiga and Marcova, n. e. Siberia, breeding at latter).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 254 (Barbados).—THAYER, Auk, xxii, 1905, 409 (Camden, Maine, 1 spec., Sept. 14, 1890).—DEANE, Auk, xxii, 1905, 410 (English Lake, n. w. Indiana, 1 spec., April 12, 1905; U. S. records).—PALMER (T. S.), Auk, xxiii, 1906, 98 (additional American records).—FLEMING, Auk, xxiii, 1906, 450 (near Toronto, Ontario, 1 spec., 1882).—HARDY, Auk, xxv, 1908, 82 (Seabrook, New Hampshire, 1 spec., Sept. 24, 1907).—BERLEPSCH, Novit. Zool., xv, 1908, 307 (Surinam).
- [*Pavoncella pugnax* SHARPE, Hand-list, i, 1899, 162.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 71.
- [*Pavoncella pugnax* RIDGWAY, Man. N. Am. Birds, 1887, 168.
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- Machetes pugnax* OUVIER, Règne Anim., i, 1817, 490.—LESSON, Traité d'Orn., 1831, 560.—NAUMANN, Vög. Deutschl., vii, 1834, 502, pls. 190-193.—GOULD, Birds Europe, iv, 1837, pl. 325 and text; Birds Great Brit., iv, 1871-72, pls. 61, 62 and text.—BONAPARTE, Geog. and Comp. List, 1838, 50.—TEMMINCK, Man. d'Orn., iv, 1840, 411.—SELYS-LONGCHAMPS, Faune Belge, 1842, 126.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 75; Hist. Brit. Birds, iv, 1852, 171.—STRICKLAND, Ann. and Mag. N. H., xii, 1843, 421 (Corfu); Proc. Zool. Soc. Lond., 1850, 221 (Kordofan).—MÜHLE, Beitr. Orn. Griechenl., 1844, 102.—YARRELL, Hist. Brit. Birds, 2nd ed., ii, 1845, 645; 3rd ed., ii, 1856, 692.—HEWITSON, Eggs Brit. Birds, ii, 1846, 301, pl. 84.—THOMPSON, Birds Ireland, ii, 1850, 230.—KJÆRBØLLING, Naumannia, i, 1850, 47 (Denmark); Danm. Fugle, 1851, pl. 36, fig. 2; Suppl., pl. 15, figs. 1-3.—STRICKLAND and SCLATER, Contr. Orn., 1852, 159 (Damara-land).—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 327 (occasional in Am.); xvii, 1875, 446 (Mass.); xix, 1878, 307 (Newburyport, marshes, Massachusetts, 1 spec., May 20, 1871).—JÄCKEL, Journ. für Orn., 1854, 502 (Bayern).—PÄSSLER, Journ. für Orn., 1856, 61 (Anhalt).—MÜLLER, Journ. für Orn., 1856, 229 (Provence).—HEUGLIN, Syst. Übers., 1856, 63; Journ. für Orn., 1861 197 (Red Sea); Orn. N. O.-Afrika, ii, Abth. i, 1873, 1180 (Egypt, Nubia, etc.).—SUNDEVALL, Svensk Fögl., 1860, pl. 39, figs. 1-6.—LINDERMAYER, Vög. Griechenl., 1860, 141.—TRISTRAM, Ibis, 1860, 80 (n. Africa).—POWYS, Ibis, 1860, 343 (Gulf of Arta, Greece, March).—GIEBEL, Vög., 1860, 379, figs. 679, 680.—HOMMEYER, Journ. für Orn., 1862, 429 (Balearic Islands); 1872, 338 (n. Germany).—RADDE, Reis. Sibir., Vög., 1863, 331; Orn. Caucas., 1884, 44, 246.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 312 (China); Ibis, 1882, 121 (Kandahar).—HINTZ, Journ. für Orn., 1863, 427 (Pomerania).—WRIGHT, Ibis, 1864, 147 (Malta).—NORDMANN, Journ. für Orn., 1864, 374 (Lapland; Fin-

land).—HOLTZ, *Journ. für Orn.*, 1865, 178 (Neu-Vorp.); 1866, 374 (Gottland).—MORE, *Ibis*, 1865, 437 (Northumberland, breeding).—SCLATER, *Proc. Zool. Soc. Lond.*, 1866, 23 (South Africa).—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 211.—LOCHE, *Expl. Sci. Algér.*, Ois., ii, 1867, 299.—TURNBULL, *Birds E. Penn. and N. J.*, 1869, 56 (Phila. ed., 45).—STEVENS, *Birds Norfolk*, ii, 1870, 261.—WYATT, *Ibis*, 1870, 17 (Sinai, Palestine).—FRITSCH, *Vög. Eur.*, 1870, pl. 38, fig. 1; pl. 43, figs. 4, 5; *Journ. für Orn.*, 1871, 388 (Bohemia).—SHELLEY, *Ibis*, 1871, 310 (Egypt); 1894, 26, 476 (Nyassaland); *Birds Egypt*, 1872, 246.—SAUNDERS, *Ibis*, 1871, 388 (s. Spain); 1884, 390 (Pyrenees); ed. Yarrell's *Brit. Birds*, iii, 1884, 426; *Man. Brit. Birds*, 1889, 585.—SALVADORI, *Faun. Ital.*, Ucc., 1871, 215.—GRAY (R.), *Birds West Scotland*, 1871, 307.—HARTING, *Handb. Brit. Birds*, 1872, 48.—PALMÉN, *Finl. Fogl.*, 1873, 169.—TACZANOWSKI, *Journ. für Orn.*, 1873, 103 (e. Siberia); *Bull. Soc. Zool. France*, i, 1876, 251; ii, 1877, 157 (Poland).—BROOKE, *Ibis*, 1873, 339 (Sardinia).—SEVERTZOV, *Turkest. Jevotn.*, 1873, 59 (migrant).—DURNFORD, *Ibis*, 1874, 399 (North Frisian Islands).—SAXBY, *Birds Shetl.*, 1874, 198.—HANSOCK, *Birds Northumberl. and Durham*, 1874, 119.—IRBY, *Orn. Straits Gibralt.*, 1875, 170; 2nd ed., 1895, 283.—FALLON, *Ois. Belg.*, 1875, 172.—PELZELN, *Ibis*, 1875, 332 (Spanish Guiana).—DANFORTH and HARVIE-BROWN, *Ibis*, 1875, 422 (Transylvania).—SEEBOHM and HARVIE-BROWN, *Ibis*, 1876, 292 (lower Petchora River, Russia; habits; descr. nest and eggs).—DRESSER, *Ibis*, 1876, 410 (Turkestan); *Birds Europe*, viii, 1878, 87, pls. 557, 558.—BLAKISTON and PRYER, *Ibis*, 1878, 221 (Yezo, Japan).—SEEBOHM, *Ibis*, 1879, 151 (Yenesai River, Siberia); 1882, 223 (Kirghiz Steppes, summer; Astrakhan, winter), 381 (Archangel, Russia); 1884, 33 (Hakodate, Japan).—BOGDANOW, *Birds Caucas.*, 1879, 100; *Consp. Av. Imp. Ross.*, i, 1884, 88.—BUTLER, *Cat. Birds Sind, etc.*, 1879, 62 (winter); *Cat. Birds S. Bombay Pres.*, 1880, 76 (winter).—LEGGE, *Birds Ceylon*, 1880, 873.—COUES, *Bull. Nutt. Orn. Club*, v, 1880, 100 (crit. nomencl.); *Check List*, 2nd ed., 1882, no. 639.—SCULLY, *Ibis*, 1881, 588 (Gilgit, India).—BOCAGE, *Orn. Angola*, 1881, 471.—SWINHOE, *Ibis*, 1882, 121 (Kandahar, s. Afghanistan).—FEILDEN and REID, *Zoologist*, 1882, 425 (Natal).—OATES, *Birds Brit. Burma*, ii, 1883, 396.—BRITISH ORNITHOLOGISTS' UNION, *List Brit. Birds*, 1883, 171.—NICHOLSON, *Ibis*, 1883, 86 (Labuan, Borneo).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, i, 1884, 292.—SHARPE, ed. *Layard's Birds South Afr.*, 1884, 685.—SALVADORI, *Ann. Mus. Genov.*, (2), i, 1884, 229 (Shoa, Nov.-May); vi, 1888, 312 (Lake Cialalaka, Feb.); *Elenco Ucc. Ital.*, 1886, 222.—WHITEHEAD, *Ibis*, 1885, 43 (Corsica).—AYRES, *Ibis*, 1885, 348 (Potchefstroom, Transvaal).—GIGLIOLI, *Avif. Ital.*, 1880, 391; 1st Resoc., 1889, 593; 2nd Resoc., 1890, 654; 3rd Resoc., 1891, 513.—HARVIE-BROWN and BUCKLEY, *Vertebr. Fauna Caithness*, 1887, 221; *Vertebr. Fauna Outer Hebrides*, 1888, 134.—FEILDEN, *Ibis*, 1889, 494 (Barbados, accidental).—OGILVIE-GRANT, *Ibis*, 1890, 442 (Madeira).—KOENIG, *Journ. für Orn.*, 1890, 457 (Canary Islands); 1893, 92 (Tunis).—BUCKLEY and HARVIE-BROWN, *Vertebr. Fauna Orkney Is.*, 1891, 218.—MACPHERSON, *Fauna Lakeland*, 1892, 389.—CORY, *Cat. West Ind. Birds*, 1892, 138 (Barbados).—MEADE-WALDO, *Ibis*, 1893, 205 (Canary Islands).—POYNTING, *Eggs Brit. Birds*, pt. iii, 1896, 179, pl. 38 (eggs).—POPHAM, *Ibis*, 1897, 104 (Golchika, Yenesei River, Siberia); 1898, 517 (Yeneseisk, Siberia).—PEARSON, *Ibis*, 1898, 202 (Waigats, Dolgoi Island, and Habarova, n. e. Russia, breeding; descr. eggs).—GRANT, *Novit. Zool.*, vii, 1900, 269 (s. Arabia).—HARTERT, *Novit. Zool.*, viii, 1901, 306 (Canary Islands).—WITHERBY, *Ibis*, 1903, 564 (s. w. Persia).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, *Auk*, xxvi, 1909, 297; *Check List*, 3rd ed., 1910, 123.—EVERMANN, *Auk*, xxx, 1913, 18 (St. Paul Island, Pribilof group, Alaska,

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- Philomachus pugnax* GRAY, List Birds Brit. Mus., Grallae, 1844, 102; Cat. Mam., etc., Nepal pres. Hodgson, 1846, 140; List Brit. Birds, 1863, 164.—LAWRENCE, Ann. Lyc. N. Y., v, 1852, 220 (Long Island); viii, 1866, 294 (Long Island).—HARTLAUB, Orn. West-Afrika, 1857, 236 (Gaboos); Journ. für Orn., 1861, 271 (Casamance).—ADAMS, Proc. Zool. Soc. Lond., 1858, 506 (India).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 737.—BAIRD, Cat. N. Am. Birds, 1859, no. 544.—IRBY, Ibis, 1861, 241 (Oudh, India).—GURNEY, Ibis, 1862, 34 (Natal); 1873, 283 (Transvaal); in Andersson's Birds Damara-Land., 1872, 304.—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (coast of Maine, accidental).—NEWTON, in Baring-Gould's Iceland, 1863, 412 (1 spec., Sept., 1820).—JERDON, Birds India, iii, 1864, 687.—DROSTE, Journ. für Orn., 1864, 422 (Borkum); 1868, 39 (Borkum); Vogelw. Borkum, 1869, 205.—GIGLIOLI, Ibis, 1865, 61 (Pisa, Italy).—SALVADORI, Journ. für Orn., 1865, 257 (Sardinia).—LAYARD, Birds South Africa, 1867, 329.—COUES, Proc. Essex Inst., v, 1868, 296 (New England); Check List, 1873, no. 437.—BREWSTER, Am. Nat., vi, 1872, 306 (Newburyport marshes, Massachusetts, May 20, 1871); Bull. Nutt. Orn. Club, i, 1876, 19 (Upton, Oxford Co., Maine, Sept. 8, 1874).—ALSTON and HARVE-BROWN, Ibis, 1873, 69 (Archangel, Russia).—AYRES, Ibis, 1873, 283 (Transvaal); 1877, 350 (Transvaal; crit.).—HUME and HENDERSON, Lahore to Yarkand, 1873, 287.—BLYTH and WALDEN, Birds Burma, 1875, 156.—BUCKLEY, Ibis, 1874, 388 (Matabele-land).—WHEATON, Bull. Nutt. Orn. Club, ii, 1877, 83 (Licking Reservoir, near Columbus, Ohio, Nov. 10, 1872).—SHARPE, in Oates, Matabele Land, 1881, App. B, 325.—MURRAY, Vertebr. Fauna Sind, 1884, 248.—SETON, Auk, ii, 1885, 336 (Toronto Island, Ontario, 1 spec., spring of 1882).—FRIVALDSKY, Av. Hung., 1891, 144.—MADARÁSZ, Erläut. Ausst. Ungar. Vogelf., 1891, 110.
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Terekia cinerea (not *Scolopax cinerea* GÜLDENSTÄDT) BUTLER, Stray Feath., iv, 1876, 17; v, 1877, 233 (Deesa, India, July-March).

Genus TRYNGITES Cabanis.

- Tryngites*^a CABANIS, Journ. für. Orn., 1856, 418. (Type, by original designation, *Tringa rufescens* Vieillot = *T. subruficollis* Vieillot.)
Tringites (emendation) SOLATER, Ibis, 1862, 277.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 520.

Medium-sized Erolinæ (?) (wing 122-136 mm.) with bill decidedly shorter than head, malar antia on vertical line with middle of nostril, loreal feathering in contact with posterior end of nostril, and inner webs of remiges marbled or freckled with dusky.

Bill much shorter than head (as long as middle toe without claw, or slightly shorter), slender, tapering terminally in lateral profile, the tip of maxilla depressed and slightly decurved; nasal groove extending about three-fourths the distance to tip of maxilla, rather broad posteriorly but contracted anteriorly; nostril basal (in contact posteriorly with loreal feathering), longitudinally linear, but divided into two nearly equal parts by a knob-like internasal process descending from upper portion; loreal and latero-frontal antia on same vertical line, both in contact with (or very nearly so) the posterior end of nostril; malar antia on same vertical line as middle of nostril, the mental antia anterior to anterior end of nostril. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by about half the length of the wing; elongated, acuminate tertials reaching nearly to tip of longest primaries. Tail less than half as long as wing, slightly rounded, the middle pair of rectrices projecting slightly but decidedly; rectrices 12, rounded at tips, the middle pair slightly but distinctly contracted terminally. Tarsus about one and one-fourth times as long as middle toe with claw, more than one-fourth as long as wing, continuously scutellate anteriorly and posteriorly; bare portion of tibia decidedly shorter than middle toe without claw, scutellate before and behind; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner; toes cleft to the base.

^a *Τρυγγίτις* = *Tringa* (Cabanis).

Coloration.—Buffy, above more grayish streaked and blotched with black; inner webs of remiges mottled or freckled distally with dusky.

Range.—North America (South America in winter.) (Monotypic.)

TRYNGITES SUBRUFICOLLIS (Vieillot).

BUFF-BREADED SANDPIPER.

Adults (sexes alike).—General color of upper parts light grayish buff or light drab-buff, the pileum broadly streaked with black, the lesser wing-coverts each with a central cuneate spot of black; scapulars and interscapulars black broadly margined with light grayish buff or drab-buff; greater coverts grayish brown narrowly edged and more broadly margined at tip with buffy whitish, the whitish tip preceded by a more or less V- or U-shaped mark of black; primary coverts deeper grayish brown with a subterminal black spot and narrow terminal margin of white; secondaries with outer webs mostly plain dusky for terminal, grayish brown for basal, half, their inner webs immaculate white for proximal two-thirds or more, the distal portion irregularly marbled or mottled with black and pale buffy; tertials grayish brown deepening into dusky distally, broadly edged, on both webs, with light buffy drab; primaries grayish brown with a large subterminal spot of black and smaller white tip; rump and upper tail-coverts light buffy drab with a large subterminal area of black; middle rectrices grayish brown passing into dusky terminally and indistinctly edged with paler; other rectrices lighter grayish brown (paler and more buffy on outer webs) narrowly tipped with buffy white and with a subterminal area of black, the brownish portion on outer webs with one or two longitudinal lines of dusky; sides of head and neck and under parts dull light pinkish cinnamon or deep pinkish buff, passing into buffy white on abdomen, flanks, and under tail-coverts, the feathers of foreneck, chest, breast, and sides more or less distinctly tipped with buffy whitish; axillars, under wing-coverts, and basal portion of inner webs of remiges immaculate white, the under primary coverts, however, pale buffy grayish brown, tipped with white and with a subterminal spot and irregular longitudinal lines of black; inner webs of remiges (except basal portion) irregularly spotted or marbled with black; bill black terminally, more brownish basally; iris dark brown; legs and feet pale brownish (yellowish in life).

Young.—Similar to adults but the upper parts with the black and lighter color less sharply contrasted, and each feather conspicuously margined with white, and with the marbling on inner webs of remiges and on under primary coverts much more minute (more dot-like) than in adults.

Adult male.—Wing, 129–136 (132.1); tail, 58–63 (60.6); exposed culmen, 19.5–20.5 (19.9); tarsus, 30–37 (32.1); middle toe, 20–21.5 (20.8).^a

Adult female.—Wing, 122–132 (127.2); tail, 54–62 (57); exposed culmen, 17.5–19.5 (18.4); tarsus, 29–31 (29.5); middle toe, 19–21 (20).^b

Breeding in Arctic districts of North America, from northern Alaska to Keewatin; migrating southward through temperate North America (chiefly through Mississippi Valley), Mexico, Central America, and South America, east of Andes, as far as Argentina (Córdoba, Misiones; Buenos Aires; Moreno; Baraccas al Sud), Paraguay (upper Rio Paraná), Uruguay (Montevideo), and eastern Peru (upper Rio Ucayali; Pebas; Xeberos; Chamicuros; Yquitos; Cosnipata); in West Indies recorded only from Cuba and Barbados, where rare or accidental in autumn; accidental in Bermudas; not yet recorded from Greenland, but frequent straggler to British Islands (17 records) and accidental in France and Helgoland (1 record each); common migrant to Bering Sea coast of eastern Siberia (Cape Wankarem, etc.) and occasional migrant to shore of Sea of Okhotsk and northern Japan (Owari).

Tringa subruficollis VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 465 (Paraguay; based on *Chorkito garganta blanco acanelado* Azara, Apunt., iii, 1805, 320).—HARTLAUB, Index Azara's Apunt., 1847, 25.

[Tringa] subruficollis GRAY, Gen. Birds, iii, 1845, 580.

Tryngites subruficollis RIDGWAY, Proc. U. S. Nat. Mus., viii, Sept. 2, 1885, 356.—

AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 262; 3rd ed., 1910, p. 124.—TURNER, Contr. N. H. Alaska, 1886, 189 (Alaska).—NELSON, Rep. N. H. Coll. Alaska, 1887, 119 (St. Michaels, Alaska, 1 pair, May 31, 1880).—LLOYD, Auk, iv, 1887, 186 (Concho Co., Texas, Aug. 31).—CORY, Auk, iv, 1887, 319 (West Indian localities and references); Birds West Ind., 1889, 240; Cat. West Ind. Birds, 1892, 94 (Cuba).—COOKE, Bird Migr. Miss. Val., 1888, 97.—DUTCHER, Auk, vi, 1889, 136 (Long Island records).—CHERRIE, Auk, vii, 1890, 332 (San Jose, Costa Rica, Sept. 25–Nov. 15); ix, 1892, 329 (San Jose).—MACKAY, Auk, ix, 1892, 389 (Nantucket Island, Massachusetts, Aug. 26–Sept. 8).—STEJNEGER, Proc. U. S. Nat. Mus., xvi, 1893, 616 (Owari, Japan).—STONE, Birds E. Penn. and N. J., 1894, 77 (coast New Jersey, rare).—ELLIOT, N. Am. Shore Birds, 1895, 145, pl. 45.—TROWBRIDGE, Auk, xiv, 1897, 209 (New England references).—POSSON, Auk, xvi, 1899, 194 (Orleans Co., w. New York, fall 1897).—BRYAN, Auk, xvi, 1899, 276 (Calumet Lake, Cook Co., Illinois, Sept. 18, 1898).—ALLEN, Bull. Am. Mus. N. H., xiii, 1900, 125 (Cienega, Santa Marta, Colombia, Sept.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 384 (Matamoros, Tamaulipas; Guanajuato; Ruatan I., Honduras; San Jose, Costa Rica; Amazon Valley, Brazil; Paraguay; e. Siberia; accidental in Europe).—TAVERNER and SWALES, Wilson Bull., no. 60, 1907, 87 (Point Pelee, Ontario, 1 spec., Aug. 29, 1907).—NORTON, Auk, xxv, 1908, 81 (Scarborough, Maine, 1 spec., Sept. 5, 1907).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 422 (Costa Rica).—DABBENE, Orn. Argent., 1910, 219 (Córdoba,

^a Seven specimens.

^b Four specimens.

- Misiones; Buenos Aires).—HERSEY, Auk, xxviii, 1911, 490 (Bart Lake, Colorado, Aug. 25 and Sept. 4, 1890).
- [Tryngites] subruficollis* RIDGWAY, Man. N. Am. Birds, 1887, 167.
- [Tryngites] subruficollis* SHARPE, Hand-list, i, 1899, 162.
- Tringites subruficollis* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 766.—IHERING, Revista Mus. Paulista, iii, 1899, 436 (São Paulo, s. Brazil).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Barracas al Sud, Argentina, June 14, 1899).—BERTONI, Fauna Parag., 1914, 39 (upper Rio Parana).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 381 (Demarcation Point and Humphrey Point, Alaska, breeding; habits).
- Tringites sub-ruficollis* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 521.
- [Tringites] subruficollis* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 72 (s. Mexico; upper Rio Ucayali, e. Peru).
- Tringa rufescens* (not of Bechstein, 1809) VIEILLOR, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 470 (Louisiana); Gal. Ois., ii, 1825, 105, pl. 238.—LESSON, Traité d'Orn., 1831, 559.—YARRELL, Trans. Linn. Soc., xvi, 1833, 109 (Cambridgeshire, England); Hist. Brit. Birds, i, 1843, p. x (Yarmouth and coast of England); ii, 1843, 634 (Parish of Melbourn, Cambridgeshire; Sherringham, Norfolk; Formby, on River Alt; Yarmouth); 2nd ed., iii, 1845, 57; 3rd ed., iii, 1856, 60.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 113.—AUDUBON, Orn. Biog., iii, 1835, 451, pl. 265; Synopsis, 1839, 233; Birds Am., 8vo. ed., v., 1842, 264, pl. 331.—JENYNS, Man. Brit. Vertebr., 1835, 214.—BONAPARTE, Geog. and Comp. List, 1838, 50.—PEABODY, Rep. Orn. Mass., 1839, 367.—TEMMINCK, Man. d'Orn., iv, 1840, 408.—GOULD, in Darwin's Zool. Voy. 'Beagle,' Birds, 1841, 130 (Montevideo, Uruguay).—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 68; Hist. Brit. Birds, iv, 1852, 194.—FISHER, Zoologist, i, 1843, 367 (Yarmouth, England).—RODD, Zoologist, iv, 1846, 1500 (Cornwall); 1860, 7236 (Lands End, Cornwall).—BOND, Zoologist, 1843, 148 (coast Sussex).—GIRAUD, Birds Long Is., 1844, 230.—McCoy, Ann. and Mag. N. H., xv, 1845, 271 (Ireland).—DENNY, Proc. Zool. Soc. Lond., 1847, 39.—REICHENBACH, Gallatores, 1850; pl. 67, fig. 657; pl. 357, figs. 2803-2805.—LEMBÈYE, Aves de la Isla de Cuba, 1850, 99.—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (Europe and America); vii, 1860, 308 (Cuba).—GÄTKE, Journ. für Orn., 1856, 71 (Helgoland); Vogelw. Helgoland, 1891, 526.—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Massachusetts).—NICHOLLS, Zoologist, xv, 1857, 579 (England).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 316 (Sea of Okotsk).—SAUNDERS, Zoologist, (2), i, 1866, 389 (Ireland).—BLAKE-KNOX, Zoologist, (2), i, 1866, 457 (Belfast, Ireland).—STEVENSON, Birds Norfolk, ii, 1870, 358 (coast Norfolk).—HARTING, Proc. Zool. Soc. Lond., 1871, 117 (Arctic America).—GRAY (R.), Birds West Scotland, 1871, 319 (Caithness).—SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxvi, 446; Ibis, 1892, 25 (Helgoland).—LILFORD, Col. Figs. Brit. Birds, pt. xix, 1891.
- Tr[inga] rufescens* KEYSERLING and BLASIUS, Wirb. Eur., 1840, lxxvii, 215.
- Actitis rufescens* NAUMANN, Vög. Deutschl., xiii, 1836, 239.—SCHLEGEL, Rev. Crit., 1844, 92; Mus. Pays-Bas, v, no. 27 (Scolopaces), 79.—BLASIUS, Ibis, 1862, 71 (Helgoland).
- Actiturus rufescens* BONAPARTE, Rev. Crit., 1850, 186; Compt. Rend., xliii, 1856, 579.—NEWTON, List Birds Europe (Blasius), 1862, 18 (Helgoland).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 209 (Abbeville, France).
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[*Tringites*] *rufescens* CORY, List Birds West Ind., revised ed., 1886, 27 (Cuba).

Tringoides rufescens GRAY, List Brit. Birds, 1863, 161.—PELZELN, Orn. Bras., 1870, 310 (Ypanema; Mattogrosso, Oct.; Maribitanas, March).

[*Tringoides*] *rufescens* PELZELN, Orn. Bras., 1870, 457.—GRAY, Hand-list, iii, 1871, 46, no. 10283.

[*Limicola*] *brevirostris* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92 (Brazil).

Actidurus nævius HEERMANN, Proc. Ac. Nat. Sci. Phila., vii, 1854, 178 (near San Antonio, Texas); Rep. Pacific R. R. Surv., x, pt. vi, 1859, 20, pl. 6 (near San Antonio, Texas; habits; descr. nest).

Genus CANUTUS Brehm.

Canutus BREHM, Vög. Deutschl., 1831, 653. (Type, by tautonymy, *Tringa canutus* Linnæus.)

Anteliotringa^a MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 274. (Type, by original designation, *Totanus tenuirostris* Horsfield.)

Large Erolinæ (wing 152—180 mm.) with the straight and rather stout bill longer than tarsus, and tail with middle rectrices not projecting.

Bill longer than head (longer than tarsus, more than one-fifth as long as wing), stout basally (its depth at base equal to about one-fourth the length of exposed culmen), tapering rapidly terminally in lateral profile, but in vertical profile appreciably contracted in width in middle portion and slightly expanded terminally; nasal groove broad basally, gradually but rather rapidly contracted anteriorly, extending nearly to tip of maxilla; mandible also with a distinct, but much narrower, lateral groove; nostril sub-basal, longitudinally linear, in lower part of nasal fossa; loral antia nearly truncate, gradually receding above to the frontal line, which forms a distinct concavity at base of culmen; malar antia forming a short obtuse angle (in *C. canutus*) or a more elongated acute angle (in *C. tenuirostris*) decidedly anterior to the loral antia; mental antia anterior to malar antia, but occupying only extreme posterior portion of the interramal space, which is mostly occupied by naked membrane. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing; longest tertials (more or less cuneate) falling short of longest primary by about length of middle toe with claw (in *C. canutus*) to nearly twice as much (in *C. tenuirostris*). Tail less than two-fifths as long

^a "Αντήλιος, eastern + *Tringa* (τρίγ=γας, a kind of bird). (Mathews.)

as wing, truncate or very slightly rounded, the middle pair of rectrices not projecting beyond the rest; rectrices 12, rounded at tip, except middle pair which are more narrowly rounded or obtusely pointed at tip. Tarsus shorter than exposed culmen, about one-fifth as long as wing, continuously scutellate anteriorly and posteriorly; middle toe, with claw, about four-fifths as long as tarsus; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner, all with a wide lateral margin, and connected at extreme base by a very small web (practically cleft to base).

Coloration.—Above grayish, variegated with blackish streaks and longitudinal spots of blackish; underparts mostly white, in summer mostly cinnamon-buff (*C. canutus*) or heavily spotted with blackish (*C. tenuirostris*); upper tail-coverts white, more or less spotted or barred with blackish.

KEY TO THE SPECIES OF CANUTUS.

- a. Wing less than 180, exposed culmen less than 40 mm.; shafts of primaries not wholly pure white basally; summer adults with under parts mostly buffy cinnamon, the chest not spotted with black. (Northern hemisphere, breeding northward.)..... *Canutus canutus* (p. 231).
- aa. Wing 180 or more, exposed culmen 40 or more mm.; shafts of primaries wholly pure white basally; summer adults with underparts white, the chest heavily spotted with black. (Eastern Siberia, southward in winter to Malay Archipelago and Australia.)..... *Canutus tenuirostris* (extralimital).^a

CANUTUS CANUTUS (Linnaeus).

KNOT.

Adult male in summer.—Above light gray, pale cinnamon-rufous, and black, these colors varying in relative extent,^b the black in form of streaks on the pileum and hindneck and broader, more or less cuneate, central spots on back and scapulars; rump pale gray with lunulate markings and bars of dusky, the upper tail-coverts white, irregularly barred and transversely spotted with dusky or blackish; wing-coverts light gray, darker centrally and with dusky shaft-streaks and paler (sometimes whitish) narrow margins, the greater

^a *Totanus tenuirostris* Horsfield, Trans. Linn. Soc., xiii, 1821, 192 (Java;=young, fide Mathews, Birds Australia, iii, 277).—*Tringa tenuirostris* Swinhoe, Proc. Zool. Soc. Lond., 1863, 315 (Shanghai, China).—*Anteliotringa tenuirostris* Mathews, Birds Australia, iii, pt. 3, Aug. 18, 1913, 275.—*Tringa crassirostris* Temminck and Schlegel, Fauna Japonica, Aves, 1847, 107, pl. 64; Seebohm, Geog. Distr. Charadriidæ, 1887, pp. xxv, 421; Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 600.—*Schanichus magnus* Gould, Proc. Zool. Soc. Lond., 1848, 39 (Australia); Birds Australia, vi, 1848, pl. 33 and text.—*Tringa magna* Bonaparte, Compt. Rend., xliii, 1856, 596.—*Canutus magnus* Mathews, Birds Australia, iii, pt. 3, Aug. 18, 1913, pl. [164] facing p. 275.

^b Usually the gray predominates, but in some midsummer specimens the black prevails.

coverts tipped with white; secondaries brownish gray narrowly edged with white; tertials darker brownish gray with pale broad but not sharply defined edgings; primary coverts and primaries dusky, the proximal primary coverts tipped with white, the shafts of primaries white or whitish, passing into grayish brown basally and terminally; tail pale brownish gray, the rectrices narrowly margined with white distally (sometimes with a narrow sub-edging or lunulate subterminal mark of dusky), their shafts white except toward tips; sides of head, including broad superciliary stripe, chin, throat, foreneck, chest, breast, and upper abdomen plain buffy cinnamon, vinaceous-cinnamon, or mikado brown, paler posteriorly; sides mixed buffy cinnamon and white, broken by irregular narrow bars and streaks or other markings of dusky; lower abdomen, flanks, anal region, and under tail-coverts white, the flanks marked like the sides, the under tail-coverts with a few small streaks or cuneate markings of dusky; axillars and under wing-coverts white, the former with distinct submarginal V-shaped markings of brownish gray, the latter with fewer and less conspicuous markings of similar form; bill black; iris dark brown; legs and feet blackish.

Adult female in summer.—Similar to the adult male and perhaps not always distinguishable, but usually with the cinnamon-buff of underparts decidedly paler, less extended posteriorly, and more often broken laterally by admixture of white and by dusky markings.

Adults in winter (sexes alike).—Above light brownish gray with indistinct shaft-streaks of darker; superciliary stripe and underparts white, the throat, foreneck, chest, and sides streaked or otherwise marked with dusky; otherwise as in summer plumage.

Young.—Similar to winter adults but feathers of upper parts margined with whitish and with a narrow submarginal lunulate or V-shaped mark of dusky; white of underparts usually tinged with dull buffy, especially on chest.

Downy young.—"Forehead warm buff, with a central black line; over the eye a double black line; crown, from centre backwards, black slightly varied with rufous and dotted with buff; nape creamy buff, slightly varied with blackish; upper parts . . . black, slightly varied with reddish brown, and profusely dotted with creamy white; underparts very slightly washed with warm buff."^a

Adult male.—Wing, 152-174 (162.7); tail, 60-66 (62.2); exposed culmen, 31-36.5 (33.9); tarsus, 29.5-33 (31); middle toe, 20-23 (21.7).^b

^a Dresser, Birds of Europe.

^b Eighteen specimens.

Adult female.—Wing, 155–176 (166.3); tail, 57–65.5 (62.3); exposed culmen, 32–38 (36.3); tarsus, 29.5–33 (31.5); middle toe, 20–22.5 (21.6).^a

Breeding in circumpolar regions (Ellesmere Land; Grinnell Land; near Fort Conger, lat. 81° 44'; Melville Island; Melville Peninsula; Smith Sound; Greenland; Iceland; Taimyr Peninsula in Siberia, and probably New Siberian Islands); migrating southward (mostly along seacoasts) to southern Africa, India, Australia, New Zealand, and southern South America, as far as Peru (Santa Lucia) and Tierra del Fuego (Cape Espiritu Santo); in West Indies recorded only from Jamaica, Barbados, and Grenada; comparatively rare in interior of North America and along Pacific coast.

[*Tringa*] *canutus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 149 (Sweden; ex Fauna Suecica, 150, Ray, 108); ed. 12, i, 1766, 251.—GMELIN, Syst. Nat., i, pt. ii, 1789, 679.—LATHAM, Index Orn., ii, 1790, 738.—TURTON, Syst. Nat., i, 1806, 409.—PELZELN, Orn. Bras., 1870, 457.—GRAY, Hand-list, iii, 1871, 48, no. 10300.—COUES, Key N. Am. Birds, 1872, 257.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.—CORY, List Birds West Ind., revised ed., 1886, 26 (Jamaica?).—SHARPE, Hand-list, i, 1899, 164.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 73 (Iceland; England; Shanghai, China).

Tringa canutus LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 29.—FLEMING, Brit. Anim., 1828, 109.—JARDINE, ed. Wilson's Am. Orn., ii, 1832, 335, pl. 57, fig. 5.—JENYNS, Mau. Brit. Vertebr., 1835, 213.—BONAPARTE, Geog.

^a Fourteen specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from coast of Virginia.....	161	61.3	34.3	30.8	21.4
Four adult males from Alaska.....	163	63.4	33.5	31.1	21.5
One adult male from Mackenzie (Fort Simpson).....	174	65.5	35	34	23.5
One adult male from France.....	164	66	34.5	30.5	21
One adult male from Japan.....	165	61	31	30	21
One adult male from China.....	162.5	62.5	32	31	20
FEMALES.					
Ten adult females from Atlantic coast U. S. (New Jersey to South Carolina).....	166	62.8	36.2	31.4	21.7
One adult female from Alaska (Point Barrow).....	166	63	38	32	22
One adult female from England.....	163	62	32	30	20
Two adult females from France.....	169.5	59.7	36.5	32.2	21.5

The material examined is insufficient so far as European and Asiatic specimens are concerned for determining whether the species requires subdivision. The few European specimens and one from China are not distinguishable from specimens from eastern North America; but one from Japan and all those from Alaska have the cinnamon color of the underparts much deeper, and were it not that the only two summer adults seen from Greenland (sex not determined) agree with these, the separation of the northwestern series might seem advisable.

and Comp. List, 1838, 49.—MACGILLIVRAY, *Man. Brit. Orn.*, ii, 1842, 67; *Hist. Brit. Birds*, iv, 1852, 185.—SELYS-LONGCHAMPS, *Faune Belge*, 1842, 126.—SCHLEGEL, *Rev. Crit.*, 1844, p. lxxxviii; *Vog. Nederl.*, 1854, pls. 227, 228; *Dier. Nederl. Vogels*, 1861, pl. 24, fig. 1; *Mus. Pays-Bas*, v, no. 27 (*Scolopaces*), 1864, 29.—YARRELL, *Hist. Brit. Birds*, 2nd ed., iii, 1845, 52; 3rd ed., iii, 1856, 55.—MÜHLE, *Beitr. Orn. Griechenl.*, 1844, 103.—GRAY, *List Birds Brit. Mus.*, *Grallæ*, 1844, 103; *List Brit. Birds*, 1863, 165.—GOSSE, *Birds Jamaica*, 1817, 354.—BLYTH, *Cat. Birds Mus. Asiat. Soc. Bengal*, 1849, 268 (*Calcutta*).—REICHENBACH, *Grallatores*, 1850, pl. 73, figs. 611, 612.—THOMPSON, *Birds Ireland*, ii, 1850, 306.—MIDDENDORFF, *Reis. Sibir.*, *Zool.*, 1851, 219 (*Taimyr River, Aug.*; *Boganida, May*).—HARTLAUB, *Journ. für Orn.*, 1854, 297 (*w. Africa*); *Orn. West-Africa*, 1857, 237 (*Gambia*).—BREWER, *Proc. Bost. Soc. N. H.*, iv, 1854, 326.—REINHARDT, *Journ. für Orn.*, 1854, 441 (*Greenland*); *Ibis*, 1861, 11 (*Greenland*).—BURMEISTER, *Syst. Ueb. Th. Bras.*, ii, 1856, 373.—CASSIN, in *Baird, Rep. Pacific R. R. Surv.*, ix, 1858, 715.—BAIRD, *Cat. N. Am. Birds*, 1859, no. 526; *Rep. U. S. and Mex. Bound. Surv.*, ii, pt. ii, 1859, 25 (*Brazos, Texas*); *Ibis*, 1867, 286 (*Greenland*).—BALDAMUS, *Naumannia*, 1857, 113 (*Blue Nile*).—SCHRENCK, *Reis. Amurland*, 1860, 420 (*mouth of Amur River, Aug.*).—SUNDEVALL, *Svensk Fogl.*, 1860, pl. 42, fig. 1.—LINDERMAYER, *Vög. Griechenl.*, 1860, 142.—IRBY, *Ibis*, 1861, 240 (*Cawnpore, India*); 1883, 186 (*Santander, Spain, May*); *Key List Brit. Birds*, 1888, 46; *Orn. Straits Gibralt.*, 1875, 171; 2nd ed., 1895, 281.—COUES, *Proc. Ac. Nat. Sci. Phila.*, 1861, 179, 229 (*monogr.*); *Proc. Essex Inst.*, v, 1868, 293 (*New England*); *Proc. Bost. Soc. N. H.*, xii, 1868, 122 (*South Carolina*); *Check List*, 1873, no. 426; 2nd ed., 1882, no. 626; *Birds Northwest*, 1874, 490.—BOARDMAN, *Proc. Bost. Soc. N. H.*, ix, 1862, 128 (*Calais, Maine*).—VERRILL, *Proc. Essex Inst.*, iii, 1862, 158 (*Oxford Co., Maine*).—BLAKISTON, *Ibis*, 1863, 132 (*Arctic America and Hudson Bay*); *Amend. List Birds Japan*, 1884, 36.—NEWTON, in *Baring-Gould's Iceland*, 1863, 412.—SWINHOE, *Proc. Zool. Soc. Lond.*, 1863, 315 (*China*); 1871, 406 (*Shanghai*); 1873, 368 (*Shanghai*); *Ibis*, 1873, 424 (*Shanghai*).—MARCH, *Proc. Ac. Nat. Sci. Phila.*, xvi, 1864, 67 (*Jamaica*).—WRIGHT, *Ibis*, 1864, 148 (*Malta, Jan.*).—ROWLEY, *Ibis*, 1864, 223 (*Brighton, England*).—ALLEN, *Proc. Essex Inst.*, iv, 1864, 86 (*Springfield, Massachusetts*).—GOULD, *Handb. Birds Australia*, ii, 1865, 259; *Birds Great Brit.*, iv, 1873, pl. 65 and text.—SALVADORI, *Journ. für Orn.*, 1865, 287 (*Sardinia*); *Faun. Ital.*, *Ucc.*, 1871, 214; *Elenco Ucc. Ital.*, 1886, 221.—LÉOTAUD, *Ois. Trinidad*, 1866, 468.—MOLLWRAITH, *Proc. Essex Inst.*, v, 1866, 92 (*Hamilton, Ontario*).—LAWRENCE, *Ann. Lyc. N. Y.*, viii, 1866, 294 (*vicinity New York City*); *Proc. U. S. Nat. Mus.*, i, 1878, 451 (*Guadeloupe*).—LAYARD, *Birds South Africa*, 1867, 330.—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 190.—GURNEY, *Ibis*, 1868, 260 (*Walvisch Bay, South Africa*).—TURNBULL, *Birds E. Penn. and N. J.*, 1869, 39 (*Phila. ed.*, 30).—DALL and BANNISTER, *Trans. Chicago Ac. Sci.*, i, 1869, 291 (*Yukon delta, Alaska, rare*; *Sitka, 1 spec.*).—DROSTE, *Vogelw. Borkum*, 1869, 211.—ELWES and BUCKLEY, *Ibis*, 1870, 331 (*Turkey*).—HÖMEYER, *Journ. für Orn.*, 1870, 425 (*e. Siberia*).—FRITSCH, *Vög. Eur.*, 1870, pl. 38, fig. 9, pl. 39, fig. 2; *Journ. für Orn.*, 1871, 388 (*Bohemia*).—SALVADORI, *Faun. Ital.*, *Ucc.*, 1871, 214; *Elenco Ucc. Ital.*, 1886, 221.—SAUNDERS, *Ibis*, 1871, 388 (*s. Spain, migrant*); ed. *Yarrell's Brit. Birds*, iii, 1883, 413; *Man. Brit. Birds*, 1889, 581.—GRAY (R.), *Birds West Scotland*, 1871, 318.—HARTING, *Handb. Brit. Birds*, 1872, 48.—FINSCH, *Trans. N. Z. Inst.*, v, 1872, 209 (*New Zealand*); *Journ. für Orn.*, 1874, 197 (*New Zealand*).—GURNEY, in *Anderson's Birds Damara-land*, 1872, 209 (*Walvisch Bay*).—FEILDEN, *Zoologist*, 1872, 3250 (*Færoe Islands*,

spring and autumn); Proc. Zool. Soc. Lond., 1877, 31 (lat. 81° 44' N.); Ibis, 1877, 3 (North Polar Basin, breeding), 407 (Smith Sound and Grinnell Land, breeding; habits; descr. young); in Nares' Voy., ii, 1878, App., 211 (Smith Sound).—BULLER, Birds New Zealand, 1873, 194; 2nd ed., ii, 1888, 35.—PALMÉN, Finl. Fogl., 1873, 190.—GOULD, Birds Great Brit., iv, 1873, pl. 65 and text.—BROOKE, Ibis, 1873, 330 (Sardinia, winter).—TACZANOWSKI, Journ. für Orn., 1873, 103 (Kultuk, e. Siberia, April); 1877, 748 (Santa Lucia, Peru); Orn. du Pérou, iii, 1886, 354.—HEUGLIN, Orn. N. O.-Afrika, ii, Abth. i, 1873, 1183 (coast Egypt; Blue Nile).—SNOW, Birds Kansas, 1873, 10 ("common").—HANCOCK, Birds Northumberland and Durham, 1874, 115.—SALVIN, Ibis, 1874, 319 (Brazil).—SAXBY, Birds Shetland, 1874, 207.—DANFORD and HARVIE-BROWN, Ibis, 1875, 422 (Transylvania).—DRESSER, Birds Europe, viii, 1877, 77, pls. 555, 556; Ibis, 1904, 232 (Taimyr Peninsula, breeding; descr. nest and eggs and nesting habits).—DAVID and OUSTALET, Ois. Chine, 1877, 469.—LANGDON, Birds Cincinnati, 1877, 14.—MAYNARD, Birds E. N. Am., 1879, 385.—RATHBUN (F. R.), Revised List Birds Centr. N. Y., 1879, 32 (Penn Yan, etc., 3 specs.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 529); Nom. N. Am. Birds, 1881, no. 529.—COLLETT, Norges Fugle, 1881, 87.—SEEBÖHM, Ibis, 1882, 381 (Archangel, n. Russia); 1884, 34 (Yokohama, Japan); 1888, 348 (Great Liakoff Island, Siberia); Hist. Brit. Birds, iii, 1885, 174; Geog. Distr. Charadriidae, 1887, pp. xxv, 422, figs. (excl. syn. *Tringa cooperi* Baird); Birds Japanese Emp., 1890, 333.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 256 (Adirondack region, New York, migrant); Auk, i, 1884, 295 (Godbout, Quebec); ii, 1885, 312 (near Fort Conger, lat. 81° 44' N., breeding; descr. eggs).—BLAKISTON and PRYER, Birds Japan, 1882, 111.—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Labrador).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 171.—GIGLIOLI, Iconogr. Avif. Ital., 1883, no. 288; Avif. Ital., 1886, 389; 1st Resoc., 1889, 591; 2nd Resoc., 1890, 662.—SHARPE, ed. Layard's Birds South Africa, 1884, 683; Cat. Birds Brit. Mus., xxiv, 1896, 593, 768; Handb. Brit. Birds, iii, 1896, 232.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 211.—BOGDANOW, Conspect. Av. Imp. Ross., 1884, 89.—MURDOCH, Rep. Exped. Point Barrow, 1885, 110; Auk, ii, 1885, 63 (Point Barrow).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 246 (Labrador); Contr. N. H. Alaska, 1886, 146 (St. Michaels, etc., Alaska, breeding).—SALVIN, Ibis, 1886, 197 (Brit. Guiana).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 234; 3rd ed., 1910, p. 112.—SETON, Auk., iii, 1886, 157, 329 (Red River, Manitoba).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 198 (Humboldt Bay, California, winter).—CORY, Auk, iv, 1887, 365 (West Indian localities and references; descr.); Birds West Ind., 1889, 236; Cat. West Ind. Birds, 1892, 93 (Jamaica; Grenada).—NELSON, Rep. N. H. Coll. Alaska, 1887, 102 (St. Michaels, 1 spec.; not breeding).—TATE, Ibis, 1887, 390 (Portugal, winter).—PALMÉN, Vega-Exped., Fogelf., 1887, pl. 4.—SENNETT, Auk, v, 1888, 110 (Corpus Christi, Texas, July 1, 3, 10).—COOKE, Bird Migr. Miss. Val., 1888, 92. (Lanesboro, Minnesota; Nebraska; Kansas; Illinois).—HARVIE-BROWN and BUCKLEY, Vertebr. Fauna Outer Hebrides, 1888, 133; Vertebr. Fauna Argyle and Inner Hebrides, 1892, 179.—SCOTT, Auk, vi, 1889, 156 (Tarpon Springs, Florida); ix, 1892, 13 (Jamaica), 212 (Caloosahatchie River, Florida, winter).—WARREN, Birds Penn., 1890, 83.—MACKAY, Auk, vii, 1890, 294 (Muskeget Island, Massachusetts); ix, 1892, 306 (Tuckermuck Island, Mass.); x, 1893, 25-35 (habits, migration, etc., in Massachusetts).—LILFORD, Col. Figs. Brit. Birds, pt. xii, 1890.—PALMER (W.), Proc. U. S. Nat. Mus., xiii, 1890, 260 (Mingan Islands).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 500 (Manitoba).—BUCKLEY and HARVIE-

- BROWN, Vertebr. Fauna Orkney Is., 1891, 218.—HAGERUP, Birds Greenland, 1891, 54.—FRIVALDSKY, Av. Hung., 1891, 145 (occasional).—STYAN, Ibis, 1891, 330, 505 (lower Yangtze River and Shanghai, China); 1893, 436 (Hainan).—STEINER, Proc. U. S. Nat. Mus., xiv, 1891, 490 (Tokyo, Japan); xv, 1892, 292 (Hakodate, Japan, May 6).—HATCH, Birds Minnesota, 1892, 124.—DE LA TOUCHE, Ibis, 1892, 498 (Foochow, China).—ROADS, Auk, x, 1893, 17 (Washington); Proc. Ac. Nat. Sci. Phila., 1893, 36 (Nisqually, Brit. Columbia, rare migrant).—KOENIG, Journ. für Orn., 1893, 92 (Tunis).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 78 (Trinidad); xvi, 1902, 233 (Homer, Alaska, 1 spec., Aug. 23).—DUBOIS, Faun. Illustr. Vertébr. Belg., ii, 1894, 154, pl. 194.—BAGG, Auk, xi, 1894, 163 (Oneida Lake, New York, 1 spec., Aug. 26, 1891).—BROWN (E. J.), Auk, xi, 1894, 259 (Smiths Island, Virginia, May 25, numerous).—PEARSON, Ibis, 1895, 248 (Iceland).—ELLIOT, N. Am. Shore Birds, 1895, 65, pl. 15.—POYNTING, Eggs, Brit. Birds, pt. iv, 1896, 171.—KOENIGSWALD, Journ. für Orn., 1896, 394 (São Paulo, s. Brazil).—BUTLER, Auk, xiv, 1897, 199 (Lake Co., Indiana, Aug. 24, 1896).—WOODRUFF, Auk, xiv, 1897, 227 (Millers, n. w. Indiana, Aug. 24, 1896); xv, 1898, 62 (s. end Lake Michigan, large flight in fall of 1897).—CLARKE, Auk, xv, 1897, 411 (near Kingston, Ontario, June 2, 1897; several).—SCHALOW, Zool. Jahrb., Suppl. iv, h. 3, 1898, 660 (Cabo Esperanto Santo, Tierra del Fuego, Feb.).—POSSON, Auk, xvi, 1899, 194 (Orleans Co., w. New York, Sept. 9, 1897).—BEYER, Proc. La. Soc. Nat. for 1897-1899 (1900), 95 (Louisiana; rare visitant).—WOOD, Auk, xvii, 1900, 391, in text (near Port Austin, Huron Co., Michigan, 1 spec., Sept. 4, 1899).—HARTERT, Novit. Zool., x, 1903, 297 (Rio de Oro, w. Africa; crit.).—HENNINGER, Auk, xxi, 1904, 277 (near Tiffin, Ohio, 1 spec., spring of 1894).—OTTOSON, Ibis, 1905, 105 (breeding in Iceland; descr. eggs).—HARTERT and GRANT, Novit. Zool., xii, 1905, 105 (San Miguel, Azores).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 251 (Barbados, Lesser Antilles).—BOWLES, Auk, xxiii, 1906, 141 (Tacoma, Washington; 1 spec., Sept., 1897).—TAVERNER and SWALES, Wilson Bull., no. 60, 1907, 84 (Point Pelee, Ontario; 2 specs., May 30, 1907, Sept. 15, 1906).—BEYER, ALLISON, and KOPMAN, Auk, xxv, 1908, 178 (Grande Isle, Louisiana, March, April).—KEEMODE, Provinc. Mus. Victoria, 1909, 36 (coast Brit. Columbia, abundant migrant).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Barracas al Sud, Argentina, Nov.).—FAY, Auk, xxvii, 1910, 339 (Chatham, Massachusetts, Dec. 31, 1909; 2 specs.).—PHILIPP, Auk, xxvii, 1910, 316 (Bulls Bay, South Carolina; very common, June 12 and 13).—DABBENE, Orn. Argentina, 1910, 220 (Cabo Espiritu Santo, Tierra del Fuego; Buenos Aires).—GRANT (C. H. B.), Ibis, 1911, 468 (Cape San Antonio, Argentina, Dec.).—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 144 (Hamilton, Greenwood Co., Kansas, Sept. 19, 1911).
- Tr[inga] canutus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxvi, 214.
- Tr[inga] canutus* GRAY, Gen. Birds, iii, 1845, 579.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 758.—NELSON, Bull. Essex Inst., viii, 1876, 128 (shores of Lake Michigan, n. e. Illinois, regular migrant, May, Sept., Oct.).—COUES, Key N. Am. Birds, 2nd ed., 1884, 632.—RIDGWAY, Man. N. Am. Birds, 1887, 153.
- Tringa canuta* REINHARDT, Ibis, 1861, 11 (Greenland).—WALTER, Journ. für Orn., 1890, 247 (e. Spitzbergen).—CLARK, Ibis, 1899, 46 (King Ludwig Islands; e. Spitzbergen).
- Tr[inga] canuta* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (shores Lake Michigan, Illinois).
- Tringa canutus* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 197 (Lake Baikal).

- Tringa canuti* BRUSINA, Motr., etc. (Orn. Croat.), 1890, 88.—REISER, Denkschr. Mat.-Nat. Kaiserl. Ak. Wiss. Wien, 1910, 94 (coast of Piahy, n. e. Brazil).
- Calidris canutus* CUVIER, Règne Anim., i, 1817, 489.—GOULD, Birds Europe, iv, 1837, pl. 324 and text.
- Canutus canutus* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, pl. [163] facing p. 270.—DABBENE, Bol. Soc. Phys. B. A., i, 1913, 260 (Barracas al Sur, Buenos Aires; Tierra del Fuego; etc.).
- [*Tringa*] *cinerea* BRÜNNICH, Orn. Bor., 1764, 53 (Christiansøe).—GMELIN, Syst. Nat., i, pt. ii, 1789, 673.—LATHAM, Index Orn., ii, 1790, 733.—TURTON, Syst., i, 1806, 405 ("America").
- Tringa cinerea* WILSON, Am. Orn., vii, 1813, 36, pl. 57, fig. 2.—TEMMINCK, Man. d'Orn., 1815, 404; ii, 1820, 627; iv, 1840, 409.—SABINE (E.), Trans. Linn. Soc., xii, 1819, 533 (Hare Island, June).—RICHARDSON, in Parry's 2nd Voy., 1824, 355 (Duke of York Bay; Melville Peninsula).—WERNER, Atlas, Gallathea, 1827, pl. 14.—LESSON, Man. d'Orn., ii, 1828, 283.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 387 (Melville Peninsula).—MAXIMILIAN, Beitr. Naturg. Bras., iv, 1833, 735.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 125.—KAUF, Thierr., ii, pt. i, 1836, 317.—PEABODY, Rep. Orn. Mass., 1839, 368.—CRESSON, Orn. Gard, 1840, 417.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—BROWN, Proc. Bost. Soc., xii, 1869, 208 (Madeira).—FALLON, Ois. Belg., 1875, 171.—SEEBOHM, Ibis, 1882, 382 (Archangel, n. Russia, in summer).
- [*Tringa*] *cinerea* BONAPARTE, Journ. Acad. Nat. Sci. Phila., v, 1825, 95 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [177].
- Canutus cinereus* BREHM, Vög. Deutschl., 1831, 655, pl. 34, fig. 2.
- [*Tringa*] *calidris* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 252 (Europe; founded on *Calidris* Brisson, Orn., v, 226, pl. 20, fig. 1, etc.).—LATHAM, Index Orn., ii, 1790, 732 (Europe).
- Trynga calidris* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 202.
- [*Tringa*] *islandica* LINNÆUS, Syst. Nat., ed. 12, i, pt. 2, 1767, Addenda (Iceland).—GMELIN, Syst. Nat., i, pt. ii, 1789, 682 (excl. syn. *Tringa ferruginea* Brünnich).—LATHAM, Index Orn., ii, 1790, 737.
- Tringa islandica* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 29.—LEACH and SABINE, in Ross's Voy., App., 1819, p. lix (Hare Island; Jacobs Bight).—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 320.—LESSON, Traité d'Orn., 1831, 558.—NAUMANN, Vög. Deutschl., vii, 1834, 372, pl. 183.—AUDUBON, Orn. Biog., iv, 1838, 130, pl. 315; Synopsis, 1839, 231; Birds Am., 8vo. ed., v, 1842, 254, pl. 328.—YARRELL, Hist. Brit. Birds, ii, 1843, 630.—HOLBÖLL, Fauna Groenlandica, 1846, 38.—KJÆRBØLLING, Naumannia, 1850, 47 (Denmark); Danm. Fugle, 1852, pl. 35, fig. 3; Suppl., 1852, pl. 16, fig. 3.—LILLJEBORG, Naumannia, ii, 1852 114 (Tromsø, Norway).—TOBIAS, Journ. für Orn., 1853, 214 (Oberlausitz, Germany).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—PUTNAM, Proc. Essex Inst., i, 1856, 216.—GIEBEL, Vög., 1860, 377, pl. 676.—NORDMANN, Journ. für Orn., 1864, 375 (Lapland).—V. EIZ, Proc. Bost. Soc. N. H., x, 1866, 268 (Labrador).—DROSTE, Journ. für Orn., 1869, 344 (Faroe Islands).—GÄTKE, Vogelw. Helgoland, 1891, pl. 516.
- Trynga islandica* NORDMANN, in Démid., Voy. Russ. Mérid., iii, 1840, 238 (Odessa; Black Sea; Crimea, autumn).
- Calidris islandica* ROSS, Voy. of Discovery, 2nd ed., ii, App. iv, 1819, 167 (Hare Island; Jacobs Bight).—LESSON, Traité d'Orn., 1831, 558.
- Canutus islandicus* BREHM, Vög. Deutschl., 1831, 654.
- Canutus islandicus* LÜHDER, Journ. für Orn., 1871, 301 (Stralsund).
- Charadrius utopiensis* MÜLLER, Syst. Nat. Suppl., 1776, 117 (based on Pl. Enl., 365).

?[*Tringa*] *australis* GMELIN, Syst. Nat., i, pt. ii, 1789, 679 (Cayenne; based on *Southern Sandpiper* Latham, Synopsis Birds, iii, pt. i, 187).—LATHAM, Index Orn., ii, 1790, 737.—TURTON, Syst. Nat., i, 1806, 409.

T[*Tringa*] *australis* SWAINSON, Fauna Bor.-Am., ii, 1831, 387, footnote (crit.).

[*Tringa*] *navia* GMELIN, Syst. Nat., i, pt. ii, 1789, 681 (France, n. Russia, and Siberia; based on *Calidris navia* Brisson, Orn., v, 229, pl. 21, fig. 1).—LATHAM, Index Orn., ii, 1790, 732.

[*Tringa*] *grisea* GMELIN, Syst. Nat., i, pt. ii, 1789, 681 (based on *Calidris grisea* Brisson, Orn., v, 1760, 233, pl. 21, fig. 2; *Grieled Sandpiper* Latham, Synopsis Birds, iii, pt. i, 175).—LATHAM, Index Orn., ii, 1790, 733.

Tringa grisea BODDAERT, Tabl. Pl. Enl., 1783, 22 (Pl. Enl., pl. 366).

Tringa ferruginea (not of Brünnich, 1764) MEYER and WOLF, Taschenb. Deutsch. Vogelk., 1810, 395.—NILSSON, Orn. Suec., ii, 1817, 84.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 466.—ROUX, Orn. Prov., 1830, pls. 282, 283.

Tringa rufa WILSON, Am. Orn., vii, 1813, 43, pl. 57, fig. 5 (Middle Atlantic States, probably New Jersey).

T[*Tringa*] *rufa* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 93 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [175].

Canutus canutus rufus MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 273, in text (America).—OBERHOLSER, Auk, xxxiv, 1917, 200.

(?)[*Tringa*] *lomatina* LICHTENSTEIN, Nom. Mus. Berol., 1854, 92 (Bengal; = *nomen nudum*).

Canutus rufescens BREHM, Naumannia, 1855, 292 (for *Tringa canutus* Linnæus).

Canutus canutus rodgersi MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 270, 273 (Japan); List of Birds of Australia, 1913, 71.

Genus ARQUATELLA Baird.

Arquatella BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 714, 717. (Type, by original designation, *Tringa maritima* Brünnich.)

Actia^a HEINE, in Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 329. (New name for *Arquatella* Baird, on grounds of purism.)

Medium-sized to rather large Erolinæ (wing 108–135 mm.) with tarsus shorter than middle toe with claw, the latter shorter than exposed culmen; bare portion of tibia less than half as long as tarsus, and with bill compressed, straight, or very slightly decurved distally.

Bill much longer than tarsus (exposed culmen about equal to tarsus and first phalanx of middle toe), compressed (nearly twice as deep as broad basally), gradually tapering terminally, straight or very slightly decurved distally; nasal groove broad, narrowly cuneate to beyond middle of maxilla, where rather abruptly contracted; mandible with a distinct though narrow lateral groove; nostril sub-basal, narrowly elliptical, its upper edge slightly operculate; anterior edge of loreal feathering forming a nearly straight vertical line, the malar antia slightly but decidedly more anterior, the mental antia nearly on a vertical line with anterior end of nostrils. Wing rather long, pointed, the longest primary (outermost) exceeding distal secondaries by slightly more than half the length of wing; longest tertials falling far short of tip of longest primary. Tail more than two-fifths

^a "ακτιος, of the seashore. (Richmond.)

as long as wing, slightly graduated, the four middle rectrices abruptly longer than the rest, contracted distally, with tips narrowly rounded; rectrices 12. Tarsus shorter than middle toe with claw (but equal to or slightly longer than middle toe without claw), less than one-fourth as long as wing, continuously scutellate anteriorly and posteriorly; bare portion of tibia very short (much less than half as long as tarsus), non-scutellate; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner; no web between middle toe and either of the anterior toes.

Coloration.—Proximal secondaries (next to tertials), tips of greater wing-coverts, lateral upper tail-coverts, and most of under parts (except anteriorly) white; rump, median upper tail-coverts, and middle rectrices dusky; rest of upper parts grayish, the feathers darker centrally and faintly glossed with purplish, in winter plumage, more or less variegated with rusty and black in summer; head and neck nearly plain brownish gray, the chest with feathers gray centrally broadly margined with white in winter, the head and neck more or less streaked and chest spotted or clouded with blackish in summer.

Range.—Northern portions of northern hemisphere. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF ARQUATELLA.

- a. Summer adults and young with little, if any, rusty or cinnamon-rufous on upper parts, the former without any dusky patch or extensive clouding on breast. (Northern Europe, northeastern North America, and northwestern Asia.)

Arquatella maritima (p. 239).

- aa. Summer adults and young with much rusty or cinnamon-rufous on upper parts, the former with a conspicuous patch or extensive clouding of dusky on breast. (*Arquatella ptilocnemis*.)

- b. Larger and much lighter colored; wing averaging 126.5 in male, 129.2 in female; culmen averaging 30.4 in male, 33 in female. (Islands of Bering Sea, north of Aleutian chain; coast of Norton Sound, etc., in migration.)

Arquatella ptilocnemis ptilocnemis (p. 244).

- bb. Smaller and much darker colored; wing averaging 117.6 in male, 120.2 in female; exposed culmen averaging 26.3 in male, 29.6 in female. (Commander Islands, Kamchatka; Aleutian and Shumagin islands, Alaska; coast of Norton Sound, Kotzebue Sound, etc., in migration.)

Arquatella ptilocnemis couesi (p. 247).

ARQUATELLA MARITIMA (Brünnich).

PURPLE SANDPIPER.

Adults in summer (sexes alike).—General color of upper parts dusky, the head and neck narrowly and rather indistinctly streaked with light buffy, the scapulars and interscapulars sooty black or blackish brown faintly glossed with bronze or purplish bronze and irregularly spotted or indented along edges with dull buff and narrowly margined terminally with whitish; rump, upper tail-coverts,

and middle rectrices sooty blackish, faintly glossed with purplish, the feathers of rump sometimes indistinctly margined with grayish; remaining rectrices light brownish gray with white shafts and (sometimes at least) margined terminally with white; lesser and middle wing-coverts deep brownish gray, darker and faintly glossed with purplish centrally and margined terminally with grayish white or pale gray, the greater coverts similar but tipped with pure white; secondaries like greater coverts but more narrowly tipped with white, the innermost (proximal) ones mostly white; primaries and primary coverts dusky grayish brown, the proximal primaries edged, especially toward base, with white; shaft of outermost and proximal primaries white, of the intermediate ones more or less tinged with brownish gray; a superciliary stripe of grayish white, narrowly streaked with dusky, beneath this a broad stripe, involving lores, suborbital region, and auriculars, of grayish dusky streaked with paler; malar region, chin and throat white, or grayish white, narrowly streaked with dusky, the chin, however (sometimes upper throat also), immaculate; foreneck and chest more broadly streaked with dusky, the breast grayish white or pale grayish irregularly spotted with dusky; rest of under parts white, the sides streaked and spotted with dark grayish, the under tail-coverts narrowly streaked with dusky; axillars and under wing-coverts white, the more anterior of the latter, together with those along edge of wing, spotted with brownish gray; bill dusky terminally, brownish (yellowish in life) basally; iris dark brown; legs and feet dull yellowish in life.

Winter plumage.—Above gray (approximately light mouse gray, quaker drab, or light purplish gray), nearly uniform on head and neck, the scapulars, interscapulars, and tertials sooty blackish faintly glossed with purplish and broadly margined with gray; a whitish crescent on lower eyelid and an indistinct whitish spot on lores, between which and anterior angle of eye the gray is darker; chin and upper throat white, the latter broadly streaked with pale gray; middle foreneck nearly plain pale gray; chest and upper breast brownish gray, the feathers margined with white, these white margins becoming gradually broader posteriorly; otherwise as in summer.

Young.—Similar to the summer adult, but scapulars and interscapulars lacking the lateral ochraceous or buffy indentations and the pale margins rather more regular or more distinct, the pale margins to wing-coverts broader and more or less buffy, the hindneck and cheeks uniform brownish gray.

Downy young.—Above mottled or marbled with blackish and buffy brown or wood brown, the hindneck pale grayish buffy mottled with grayish dusky, the back and rump dotted with whitish; fore part

of head light brownish buffy, broken by a loreal streak, a rictal streak, and a median frontal streak of brownish black; under parts dull buffy white.

Adult male.—Wing, 118–129 (123.8); tail, 57–64 (59.7); exposed culmen, 26.5–35 (29.3); tarsus, 21–23 (21.8); middle toe, 21.5–23.5 (22.4).^a

Adult female.—Wing, 115–130 (124.2); tail, 52–66 (59.4); exposed culmen, 27.5–34 (29.5); tarsus, 21–23.5 (22); middle toe, 21.5–24 (22.5).^b

Northeastern North America, breeding from Melville Island and Ellesmere Land southward to Melville Peninsula, eastward to Greenland; also in Iceland, Faroe Islands, and Arctic Europe and Asia, as far as Taimyr Peninsula; migrating southward along Atlantic coast of North America, regularly to Long Island, irregularly or casually to southern Florida (Caloosahatchie River; Gordons Pass; Key West), shores of Great Lakes (Cleveland, Ohio, rare; Cook Co., Illinois, June, 1895, Nov., 1886), and to British Islands, Azores, and Mediterranean coasts of Europe.

[*Tringa*] *maritima* BRÜNNICH, Orn. Bor., 1764, 54 (Christiansøe Island; Norway).—GMELIN, Syst. Nat., i, pt. ii, 1789, 678.—LATHAM, Index Orn., ii, 1790, 731.—TURTON, Syst. Nat., i, 1806, 409.—REINHARDT, Journ. für Orn., 1854, 441 (Greenland).—GRAY, Hand-list, iii, 1871, 49, no. 10302.—COUES, Key N. Am. Birds, 1872, 256.

Tringa maritime SABINE (E.), Trans. Linn. Soc., xii, 1819, 532 (Hare Island, June; Possession Bay, Sept.); in Parry's 1st Voy., 1824, App., p. cci (Davis Strait and Baffin Bay, breeding).—VIEILLIOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 471.—TEMMINCK, Man. d'Orn., ii, 1820, 619; iii, 1840, 404.—RICHARDSON, in Parry's 2nd Voy., 1824, 354 (Winter Island, June).—ROSS (J. C.), in Parry's 3d Voy., 1826, 101 (Port Bowen, June); in Parry's Narrative, 1828, 194 (shores of Hecla Cove); in Ross's 2nd Voy., Nat. Hist., 1835, p. xxii (Fury Point; Melville Island).—WERNER, Atlas, Gallatores, 1827, pl. ii.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 318; Geog. and Comp. List,

^a Fourteen specimens.

^b Sixteen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Fourteen adult males of <i>A. maritime</i>	123.8	59.7	29.3	21.8	22.4
Thirty-two adult males of <i>A. pitlocnemis couesi</i>	117.6	54.4	26.3	22.5	22.5
Eighteen adult males of <i>A. pitlocnemis pitlocnemis</i>	126.5	59.1	30.4	23.1	22.6
FEMALES.					
Sixteen adult females of <i>A. maritime</i>	124.2	59.4	29.5	22	22.5
Thirty adult females of <i>A. pitlocnemis couesi</i>	120.2	55.2	29.6	22.9	23.3
Twenty-seven adult females of <i>A. pitlocnemis pitlocnemis</i>	122.2	60.1	33	23.3	23.2

1838, 49.—ROUX, Orn. Provenç., 1830, pl. 284.—BREHM, Vög. Deutschl., 1831, 651.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 382 (Hudson Bay).—LESSON, Traité d'Orn., 1831, 558.—NUTTALL, Man. Orn., U. S. and Can., Water Birds, 1834, 115.—NAUMANN, Vög. Deutschl., vii, 1834, 467, pl. 188.—JENYNS, Man. Brit. Vertebr., 1835, 211.—AUDUBON, Orn. Biog., iii, 1835, 558, pl. 284; Synopses, 1839, 233; Birds Am., 8vo ed., v, 1842, 261, pl. 330.—KAUP, Thierr., ii, pt. i, 1836, 317.—BREWER, Journ. Bost. Soc. N. H., 1837, 437 (Massachusetts); Proc. Bost. Soc. N. H., iv, 1854, 326 (Europe and America).—GOULD, Birds Europe, iv, 1837, pl. 334 and text.—PEABODY, Rep. Orn. Mass., 1839, 368.—SELYS-LONGCHAMPS, Faune Belge, 1842, 126.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 67; Hist. Brit. Birds, iv, 1852, 197.—YARBELL, Hist. Brit. Birds, ii, 1843, 665.—SCHLEGEL, Rev. Crit., 1844, p. lxxxviii; Vög. Nederl., 1854, pl. 229; Dier. Nederl. Vogels, 1861, pl. 24, figs. 3, 4; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 30.—MÜHLE, Beitr. Orn. Griechenl., 1844, 104.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 104; List Brit. Birds, 1863, 166.—HOLBÖLL, Fauna Groenlandica, 1846, 39.—JARDINE, Contr. Orn., 1849, 84 (Bermuda, autumn).—REICHENBACH, Grallatores, 1850, pl. 73, figs. 621–623.—THOMPSON, Birds Ireland, ii, 1850, 303.—HURDIS, Jardine's Contr. Orn., 1850, 9, 37 (Bermudas?).—KJÆRBÖLLING, Naumannia, i, 1850, 47 (Denmark); Danm. Fugle, Suppl., 1852, pl. 15, fig. 3.—LILLJEBORG, Naumannia, ii, pt. ii, 1852, 109 (n. Russia), 114 (Tromsø, Norway).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland).—PUTNAM, Proc. Essex Inst., i, 1856, 216 (Essex Co., Massachusetts).—HEWITSON, Eggs Brit. Birds, ii, 1856, 366, pl. 103.—MÜLLER, Journ. für Orn., 1856, 230 (Provence).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 717.—BAIRD, Cat. N. Am. Birds, 1859, no. 528; Ibis, 1867, 286 (Greenland).—ELWES and BUCKLEY, Ibis, 1859, 171 (Spitzbergen).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 289 (Bermudas?).—SUNDEVALL, Svensk Fogl., 1859, pl. 42, fig. 5.—LINDERMAYER, Vög. Griechenl., 1860, 142.—REINHARDT, Ibis, 1861, 11 (Greenland).—GODMAN, Ibis, 1861, 90 (Norway); 1866, 101, 107 (Azores); Azores, 1870, 35.—NEWTON, in Baring-Gould's Iceland, 1863, 413 (Iceland, breeding); Ibis, 1865, 505 (Spitzbergen).—BLAKISTON, Ibis, 1863, 132 (Arctic America; Hudson Bay).—MALMGREN, Journ. für Orn., 1863, 372 (Spitzbergen); 1865, 199 (Spitzbergen).—NORDMANN, Journ. für Orn., 1864, 375 (Scandinavia).—SALVADORI, Journ. für Orn., 1865, 287 (Sardinia).—HOY, An. Rep. Smithsonian. Inst. for 1864 (1865), 438 (Missouri).—WEIZ, Proc. Bost. Soc. N. H., x, 1866, 268 (Labrador).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 192.—DROSTE, Journ. für Orn., 1868, 42 (Borkum); 1869, 344 (Faroe Islands); Vogelw. Borkum, 1869, 214.—TURNBULL, Birds E. Penn. and N. J., 1869, 39 (Phila. ed., 30).—GILLET, Ibis, 1870, 306 (Novaya Zemlya; Matthews Strait, Kara Sea).—HOMER, Journ. für Orn., 1870, 425 (e. Siberia).—HEUGLIN, Journ. für Orn., 1871, 103 (Spitzbergen); 1872, 119 (Arctic Europe); Ibis, 1872, 62 (Novaya Zemlya).—HARTING, Proc. Zool. Soc. Lond., 1871, 116 (Arctic America); Handb. Brit. Birds, 1872, 48.—GRAY (R.), Birds West Scotl., 1871, 325.—FEILDEN, Zoologist, 1872, 3250 (Faroe Islands, breeding).—BROOKE, Ibis, 1873, 339 (Sardinia).—COUES, Check List, 1873, no. 423: 2nd ed., 1882, no. 626; Birds Northwest, 1874, 488.—HANCOCK, Birds Northumb. and Durham, 1874, 115.—SAXBY, Birds Shetland, 1874, 211.—FALLON, Ois. Belg., 1875, 170.—SEEBOHM, Ibis, 1882, 381 (Archangel, n. Russia); Hist. Brit. Birds, iii, 1885, 192, pl. 31 (eggs); Geog. Distr. Charadriidæ, 1887, pp. xxv, 428, fig.; Ibis, 1892, 25 (Helgoland).—BOGDANOW, Conspect. Av. Imp. Ross., 1884, 90.—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 236 (Bermudas, 1 spec.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886,

- and 2nd ed., 1895, no. 235; 3rd ed., 1910, p. 112.—DUTCHER, Auk, v, 1888, 350 (Long Island).—SCOTT, Auk, v, 1888, 184 (Gordon's Pass, w. Florida, Nov., 1886); vi, 1889, 156 (Key West, Florida); ix, 1892, 212 (Caloosahatchie River, Florida, accidental).—CHAMBERLAIN (M.), Auk, vi, 1889, 217 (s. Greenland).—CLARKE (W. E.), Zoologist, 1890, 13 (Jan Mayen Land); Ibis, 1899, 46 (Ryk-ys Islands, breeding; Whale Point Harbor, King Ludwig Islands; e. Spitzbergen).—WALTER, Journ. für Orn., 1890, 238, 241, 242, 244, 247, (e. Spitzbergen).—BRUSINA, Motr., etc. (Orn. Croatia), 1890, 88.—WARREN, Birds Pennsylvania, 1890, 84.—COLLETT, Ibis, 1890, 467 (Trondhjem, Norway, breeding on mountains).—GÄTKE, Vogelw. Helgoland, 1891, 518.—HAGERUP, Birds Greenland, 1891, 54 (resident, breeding).—FAIV-ALDSKY, Av. Hung., 1891, 146.—MADARÁSZ, Erläut. Ausst. Ungar. Vogelf., 1891, 110.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 48.—STONE, Birds E. Penn. and N. J., 1894, 73 (Philadelphia; Atlantic City).—ELLIOT, N. Am. Shore Birds, 1895, 67, pl. 16.—SCHALOW, Journ. für Orn., 1895, 470 (w. Greenland; descr. eggs).—WOODRUFF, Auk, xiii, 1896, 180 (South Chicago, Illinois, June, 1895, and Nov. 7, 1891).—AMES, Auk, xviii, 1901, 107 (Toronto, Ontario, Nov. 3, 1900).—HARTERT and GRANT, Novit. Zool., xii, 1905, 105 (Flores, Azores).
- Tringa maritima* GRAY, Gen. Birds, iii, 1845, 579.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (shore of Lake Michigan, n. e. Illinois); Man. N. Am. Birds, 1887, 163.—NELSON, Bull. Essex Inst., viii, 1876, 127 (shore Lake Michigan, n. e. Illinois, rare migrant).
- Tringa maritima* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxv, 214.
- Totanus maritimus* STEPHENS, Shaw's Gen. Zool., xii, 1824, 146.
- Calidris maritima* CUVIER, Règne Anim., i, 1829, 525.
- Pelidna maritima* BONAPARTE, Geog. and Comp. List, 1838, 9.—FRITSCH, Vög. Eur., 1870, 353, pl. 33, fig. 12.—SAUNDERS, Ibis, 1871, 388 (s. Spain).—SALVADORI, Faun. Ital., Ucc., 1871, 212.—GIELIOLI, Ibis, 1881, 209 (Tuscany and Genoa, Italy, rare); Iconogr. Avif. Ital., no. 283; Avif. Ital., 1886, 383; 1st Resoc., 1889, 585; 2nd Resoc., 1890, 657.
- Arquatella maritima* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 183 (monogr.); Proc. Essex Inst., v, 1868, 293 (New England); Check List, 2nd ed., 1882, no. 620.—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Massachusetts).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 294 (vicinity New York City).—GOULD, Birds Great Brit., iv, 1869, pl. 74 and text.—BREWER, Proc. Bost. Soc. N. H., xix, 1878, 306 (Chatham, Massachusetts, Sept. 8, 1877).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 530); Nom. N. Am. Birds, 1881, no. 530.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 217.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 246 (Labrador).—SALVADORI, Elenco Ucc. Ital., 1886, 218.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 578, 768.—JONES (L.), Wilson Bull., no. 57, 1906, 114 (Cleveland, Ohio, rare).
- Arquatella maritima* RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 162 (descr., etc.).—COUES, Key N. Am. Birds, 2nd ed., 1884, 629.
- Arquatella maritima* SHARPE, Hand-list, i, 1899, 164.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 73.
- Arquatella maritima maritima* HANTZSCH, Journ. für Orn., July, 1908, 352 (n. e. Labrador).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 113.
- Tringa (Arquatella) maritima* PALMÉN, 'Vega'-Exped., 1887, 313 (Taimur-land, lat. 74° 51' N., Aug. 11).

- [*Actia*] *maritima* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 329 (Iceland; Greenland).
- (?) [*Tringa*] *undata* BRÜNNICH, Orn., Bor., 1764, 55.—GMELIN, Syst. Nat., i, pt. ii, 1789, 678.—LATHAM, Index Orn., ii, 1790, 732.—TURTON, Syst. Nat., i, 1806, 404.
- (?) [*Tringa*] *striata* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 248 (Europe; based on *Totanus striatus* BRISSON, Orn., v, 196, pl. 18, fig. 1).—GMELIN, Syst. Nat., i, pt. ii, 1789, 672.—LATHAM, Index Orn., ii, 1790, 733.—TURTON, Syst. Nat., i, 1806, 404.
- (?) *Tringa striata* FABRICIUS, Fauna Groenlandica, 1780, 107.—BODDAERT, Tabl. Pl. Enl., 1783, 51 (Pl. Enl., pl. 827).—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 472.
- Tringa striata* (not of Linnæus?) FLEMING, Brit. Anim., 1828, 110.—DRESSER, Birds Europe, viii, 1877, 69, pl. 554; Ibis, 1904, 231 (Taimyr Peninsula, n. Siberia, breeding); 1908, 516 (Taimyr Peninsula, breeding).—SALVIN, Cat. Strickland Coll., 1882, 610 (Britain).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 171.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 408; Man. Brit. Birds, 1889, 579.—SLATER (H. H.) and CARTER, Ibis, 1886, 50 (Iceland; descr. eggs).—TAIT, Ibis, 1887, 390 (Portugal, Nov., Dec.).—HARVEY-BROWN and BUCKLEY, Vertebr. Faun. Caithness, 1887, 220 (winter); Vertebr. Faun. Outer Hebrides, 1888, 132.—BUCKLEY and HARVEY-BROWN, Vertebr. Fauna Orkney Is., 1891, 217; Vertebr. Faun. Argyll and Inner Hebrides, 1892, 178.—MACPHERSON, Vertebr. Faun. Lakeland, 1892, 386.—LILFORD, Col. Figs. Brit. Birds, pt. xxiv, 1893.—PEARSON and BIDWELL, Ibis, 1894, 235 (n. Norway; descr. eggs).—PEARSON, Ibis, 1895, 248 (Iceland); 1896, 223 (Novaya Zemlya; habits); 1898, 202 (Waigats and Cape Greben, n. e. Russia; descr. eggs).—POYNTING, Eggs Brit. Birds, pt. i, 1895, 167, pl. 36 (eggs).—IRBY, Orn. Straits Gibralt., 2nd ed., 1895, 252.—TREVOR-BATTYE, Ibis, 1897, 589 (Spitzbergen; habits; descr. eggs).—CLARKE (W. E.), Ibis, 1898, 260 (Franz Josef Land, breeding).—SCHALOW, Journ. für Orn., 1899, 386 (Spitzbergen).
- [*Tringa*] *lincolniensis* LATHAM, Index Orn., ii, 1790, 734 (Lincolnshire, England; based on *Black Sandpiper* Brit. Zool., ii, no. 197; Latham, Synop. Birds, 251).—TURTON, Syst. Nat., i, 1806, 405.
- Tringa lincolniensis* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 469.
- Tringa nigricans* MONTAGU, Trans. Linn. Soc., iv, 1796, 40, pl. 2, fig. 2 (Larn or Lougharne, Carmarthenshire, Wales).—TURTON, Syst. Nat., i, 1806, 403.—LEACH, Syst. Cat. Mamm., etc., Brit. Mus., 1816, 30.—BREM, Vög. Deutschl., 1831, 652.—IRBY, Orn. Straits Gibralt., 1875, 171.
- [*Tringa*] *canadensis* LATHAM, Index Orn., Suppl., 1801, p. lxx (Canada).
- Tringa canadensis* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 453.
- Trynga arquata* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 190 (Ingria and Volga; Desert of Barabens; Kuril Islands; Bering Island).
- Tringa littoralis* BREHM, Vög. Deutschl., 1831, 652 (East Indies).
- Tringa minuta* (not of Leisler, 1812) WALKER, Ibis, 1860, 166 (Frederikshaab, Greenland).

ARQUATELLA PTILOCNEMIS PTILOCNEMIS (Coues).

PRIBILOF SANDPIPER.

Adults in summer (sexes alike).—Pileum light fulvous or buff, broadly streaked with blackish, the hindneck similar but much less distinctly streaked, and tinged or intermixed with pale grayish;

scapulars and interscapulars ochraceous, ochraceous-rufous, or light clay color, the central portion of each feather black, the tips of some narrowly margined with whitish; rump and upper tail-coverts dusky slate color, the feathers indistinctly tipped with gray; wing-coverts slate-grayish, margined with white or grayish white, the greater coverts being tipped with pure white; primaries dark gray or dull slate color, with white shafts, the proximal quills edged basally with white; an indistinct loral stripe (sometimes obsolete) and auricular region pale grayish fulvous finely and indistinctly streaked with dusky, the rest of head, including superciliary stripe, together with under parts, white, the chest usually tinged with ochraceous and narrowly streaked with dusky, the breast blotched or clouded with grayish dusky, sometimes nearly uniformly dusky, the flanks and under tail-coverts with a few narrow shaft-streaks of dusky; axillars and most of under wing-coverts immaculate white, the under primary coverts, however, very pale gray, the edge of wing spotted with gray; bill blackish, more brownish basally (in dried skins); iris dark brown; legs and feet dusky (in dried skins).

Winter plumage.—Wings, rump, upper tail-coverts, and posterior under parts as in summer; rest of upper parts light gray (between pale quaker drab and cinereous), the scapulars and interscapulars darker centrally, with a very faint purplish or bronzy gloss in certain lights; head and neck light or pale gray, darker and nearly uniform on pileum, paler and more or less streaked with white elsewhere, the throat white, immaculate or but sparsely streaked; chest and breast white, irregularly marked with pale gray.

Young.—Much like summer adults but wing-coverts broadly margined with pale buff, chest pale buff distinctly marked with short streaks and sagittate markings of dusky gray, and scapulars, etc., more distinctly margined terminally with buff or buffy white.

Downy young.—Above bright sayal brown or cinnamon irregularly marbled with black, the back and rump bespangled with downy, dot-like flecks of buffy white; hindneck nearly uniform pale grayish buff; forehead deep warm buff or light pinkish cinnamon, with a median streak or longitudinal diamond-shaped spot of black, extending posteriorly into the fulvous of the crown and occiput, which are irregularly marbled, longitudinally, with black; a narrow black loral streak reaching half way or more to eye, and a still narrower black rictal streak; under parts immaculate buffy white.

Adult male.—Wing, 119–133 (126.5); tail, 52–64 (59.1); exposed culmen, 27–35.5 (30.4); tarsus, 21.5–24.5 (23.1); middle toe, 20–24.5 (22.6).^a

^a Eighteen specimens.

Adult female.—Wing, 122–134.5 (129.2); tail, 56–65 (60.1); exposed culmen, 28–37 (33); tarsus, 21.5–24.5 (23.3); middle toe, 21.5–25 (23.2).^a

Breeding on St. Lawrence, St. Matthews, and Pribilof Islands, in Bering Sea; migrating to coast of Alaska, from Norton Sound to eastern Aleutian Islands (Unimak, Tigalda, and Unalaska islands), Chilcoot, Portage Bay, and Lynn Canal.

Tringa maritima (not of Brünnich) DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 291, part (St. George Island, Pribilof).—DALL, Proc. Calif. Ac. Sci., v, 1874, 275 (Pribilof Islands).

Tringa crassirostris (not of Temminck and Schlegel) DALL, Proc. Calif. Ac. Sci., v, 1873, 28 (Pribilof Islands); Am. Nat., viii, 1873, 635 (St. Paul Island, Pribilof group).—COUES, in Elliott's Affairs in Alaska, 1873 (not paged); ed. 1875, 182; Check List, 1873, no. 426 bis.

Tringa ptilocnemis COUES, in Elliott's Affairs in Alaska, 1873 (not paged), (St. George Island, Pribilof group, Alaska; coll. U. S. Nat. Mus.); ed. 1875, 182, footnote, Birds Northwest, 1874, 491; Am. Nat., viii, 1874, 500, 501 (reprint of orig. descr.).—ELLIOTT, Mon. Pribylov Group, 1882, 129 (breeding habits).—HARTLAUB, Journ. für Orn., 1883, 279 (Portage Bay and Chilcoot, Alaska; crit.).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 183.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 237.—NELSON, Rep. N. H. Coll. Alaska, 1887, 105 (Pribilof Islands; St. Matthews Island; St. Lawrence Island, breeding; Portage Bay, Dec., Jan., April; descr. nest and eggs).

T[ringa] ptilocnemis RIDGWAY, Man. N. Am. Birds, 1887, 154.

A[quatella] ptilocnemis RIDGWAY, Bull. Nutt. Orn. Club, v, July, 1880, 163 (diagnosis; crit.).—COUES, Key N. Am. Birds, 2nd ed., 1884, 630.

Arquatella ptilocnemis RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 199 (Cat. N. Am. Birds, no. 532); Nom. N. Am. Birds, 1881, no. 532.—COUES, Check List, 2nd ed., 1882, no. 622.—NELSON, Cruise 'Corwin' in 1881 (1883), 86 (Pribilof).

^a Twenty-seven specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from St. Paul Island, Pribilof group.....	127.8	59.6	30.8	23.4	23.1
Three adult males from St. George Island, Pribilof group.....	126	57.5	32.8	23.7	23.7
One adult male from St. Matthew Island.....	126	60	30	21.5	20
Three adult males from Hall Island.....	125	60.3	29.2	22.5	21.5
Two adult males from St. Lawrence Island.....	122.5	56	27	22.2	22
One adult male from Point Etolin.....	130	60.5	30.5	23.5	23
FEMALE.					
Eleven adult females from St. Paul Island.....	130.2	60.8	34.2	23.6	23.5
Seven adult females from St. George Island.....	131.1	61.2	32.7	23	22.6
Four adult females from St. Matthew Island.....	126.1	58	31.9	23	22.7
Two adult females from Hall Island.....	128.5	56.5	31.2	23	22.5
Two adult females from St. Lawrence Island.....	124	58	31.5	23.5	22.7
One adult female from Nushagak.....	129	64	33	24	23.5

- St. Matthews, and St. Lawrence islands).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, i, 1884, 222.—STEJNEGER, *Bull. U. S. Nat. Mus.*, no. 29, 1885, 112, in text (does not occur on Commander Islands).—MCGREGOR, *Condor*, viii, 1906, 119 (Unimak Island, Aug. 4; Tigalda Island, Aug. 5).
 [Arquatella] *ptilocnemis* SHARPE, *Hand-list*, i, 1899, 164.—FORBES and ROBINSON, *Bull. Liverp. Mus.*, ii, no. 2, 1899, 73.
Tringa maritima ptilocnemis SEEBOHM, *Geog. Distr. Charadr.*, 1887, pp. xxv, 421.—ELLIOT, *N. Am. Shore Birds*, 1895, 73, pl. 18.
Tringa maritima ptilocnemis ELLIOT, *N. Am. Shore Birds*, 1895, 235.
Arquatella maritima ptilocnemis AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, *Auk.*, xxv, July, 1908, 366; *Check List*, 3rd ed., 1910, 113.
 [Arquatella maritima.] Subsp. β . *Arquatella ptilocnemis* SHARPE, *Cat. Birds Br.t. Mus.*, xxiv, 1896, 584.
Tringa gracilis HARTING, *Proc. Zool. Soc. Lond.*, xlii, April, 1874, 242, pl. 40, figs. 4-6 (St. Paul Island, Pribilof group, Alaska; coll. Brit. Mus.).

ARQUATELLA PTILOCNEMIS COUESI (Ridgway).

ALEUTIAN SANDPIPER.

Similar to *A. p. ptilocnemis* but decidedly smaller and much darker in color; the summer plumage with blackish and rusty or cinnamon-rufous predominating on back and scapulars, and all the colors much darker and more extended. Very similar in winter plumage to *A. maritima*, but summer plumage and young very different, both being conspicuously marked with rusty on back and scapulars, and the summer plumage with breast conspicuously blotched or clouded with dusky.

Adult male.—Wing, 108–123.5 (117.6); tail, 46–59 (54.4); exposed culmen, 23–30 (26.3); tarsus, 21–24 (22.5); middle toe, 19–24 (22.5).^a

Adult female.—Wing, 112.5–129 (120.2); tail, 48–60 (55.2); exposed culmen, 26.5–34 (29.6); tarsus, 21.5–24 (22.9); middle toe, 21.5–25 (23.3).^b

^a Thirty-two specimens.^b Thirty specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Muller Bay, Alaska Peninsula.....	123.5	57	26	23	23.5
Four adult males from Morzhovoi Bay, Alaska Peninsula.....	121	57.4	27.9	22.7	22.9
One adult male from Sannak Island.....	122	56	27	23.5	23
Three adult males from Atka Island.....	114	53	25.8	22	21.5
One adult male from Adak Island.....	116	56	25	22	22
Four adult males from Tanaga Island.....	113	51.7	26.4	22.2	22.5
Four adult males from Kiska Island.....	114	52.1	24.7	22.1	22.2
One adult male from Agattu Island.....	119	55	28	23	23
Five adult males from Attu Island.....	116.7	55.3	26.3	23	23.6
Three adult males from Poring Island, Kamchatka.....	118.3	54.8	25.5	22.5	22.8
Four adult males from St. Michael.....	120.4	54.4	26.9	22.4	21.4
One adult male from Kings Cove.....	119	54	27.5	22.5	22.5

Breeding on Aleutian and Shumagin Islands, Alaska, and Commander Islands, Kamchatka; wintering on the same islands, but also migrating to coast of Alaska, from Kotzebue Sound to Sitka, as well as to St. Lawrence Island, Kuril Islands, and northeastern Siberia (Plover Bay; Providence Bay, June, July; East Cape).

Trynga arguatella var. PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 190 (Kuril Islands).
Tringa maritima (not of Brünnich) MIDDENDORFF, Reis. Sibir., Zool., 1851, 220 (lat. 75° N., e. Siberia, Aug.).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 315 (Amur-land).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 291 part (St. Michael, Pastolik, and Sitka, Alaska; Plover Bay, Siberia.).—BAIRD, Trans. Chicago Ac. Sci., i, 1869, 317, part.—HARTING, Proc. Zool. Soc. Lond., 1871, 116 (n. w. Coast North America; crit.).—FINSCH, Abh. Nat. Bremen, iii, 1872, 65 (Sitka).—DALL, Proc. Calif. Ac. Sci., v, 1874, 275, part (Aleutian Islands).—PALMÉN, Swed. Cat. London Fish. Exh., 1883, 203.—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. France, ix, 1884, 146 (Kamchatka).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 192, part; Birds Japanese Emp., 1890, 335 (Kuril Islands).—SCHALOW, Journ. für Orn., 1891, 259 (Unalaska; Kamchatka).

Tringa (Pelidna) maritima DALL, Proc. Calif. Ac. Sci., v, 1873, 28 (Unalaska; Shumagin Islands).

Arquatella maritima NELSON, Cruise 'Corwin' in 1881 (1883), 85 (Aleutian Islands).

Arquatella covesi RIDGWAY, Bull. Nutt. Orn. Club, v, no. 3, July, 1880, 160 ("Aleutian Islands and coast of Alaska, north to St. Michael"; type from Chicagoff Harbor, Attu Island, Aleutians; coll. U. S. Nat. Mus.); Nom. N. Am. Birds, 1881, no. 531.—REICHENOW and SCHALOW, Journ. für Orn., 1881, 70 (reprint orig. descr.).—COUES, Check List, 2nd ed., 1882, no. 621.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 221.—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 112 (Commander Islands; synonymy, crit., habits, etc.); Proc. U. S. Nat. Mus., x, 1887, 129 (Commander Islands);

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
FEMALES.					
One adult female from Morzhovoi Bay.....	122	54.5	32.5	24	24
One adult female from Sannak Island.....	127	59	31	.....	23
Two adult females from Unalaska Island.....	125.5	58.2	31.2	23.7	24
Four adult females from Atka Island.....	117.7	55.9	29.5	22.6	22.9
Two adult females from Adak Island.....	118	53.2	31	22.7	23.2
Three adult females from Tanaga Island.....	117.3	54.7	30.2	22.7	23.2
Two adult females from Kiska Island.....	112.7	50	28.5	21.7	22.2
Four adult females from Attu Island.....	118.7	53.6	30.3	23.6	24.1
Three adult females from Bering Island.....	121.3	57.5	27.7	23	23.5
Six adult females from St. Michael.....	123.3	55.2	29.2	23	23.1
One adult female from Kings Cove.....	115	55.5	31.5	22	23
One adult female from Sitka.....	125	58	34	23	23

Variations in both coloration and dimensions, according to locality, indicate the possibility that further subdivision of the species may be required. Specimens from St. Michael and one from St. Lawrence Island have very dark upper parts, the dorsal region being mostly black, with very little of rusty. Examples from Bering Island, Commander group, represent the opposite extreme, rusty predominating on the upper parts, except one specimen, which is almost precisely like one from Muller Bay, Alaska Peninsula.

- xxi, 1898, 280 (Kuril Islands; breeding?).—CHAPMAN, Bull. Am. Mus. N. H., xx, 1904, 401 (Muller Bay, Cook Inlet, Alaska, breeding).
- Arquatella couesi* RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 162 (descr.).—COUES, Key N. Am. Birds, 2d ed., 1884, 629.
- [*Arquatella couesi* SHARPE, Hand-list, i, 1899, 164.
- Arquatella couesi* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199 (Cat. N. Am. Birds, no. 531).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 164 (Chernoffsky and Iliuliuk, Unalaska, Oct.).
- Tr[inga] couesi* HARTLAUB, Journ. für Orn., 1883, 280.
- Tringa couesi* RIDGWAY, Proc. U. S. Nat. Mus., viii, 1885, 356.—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 99 (Unalaska, Oct. 23, in flocks).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 236.—TURNER, Contr. N. H. Alaska, 1886, 147 (St. Michaels, breeding; Aleutian Islands; habits).—NELSON, Rep. N. H. Coll. Alaska, 1887, 103, pl. 6 (habits, etc.).
- Tr[inga] couesi* RIDGWAY, Man. N. Am. Birds, 1887, 154.
- Tringa (Arquatella) maritima* ... var. *couesi* PALMÉN, 'Vega'-Exped., Fogelf, 1887, 314 (Tschuksth-halfons, e. Siberia, June 10).
- Tringa maritima couesi* SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxv, 430.—TACZANOWSKI, Mém. Ac. Imp. Sci. St. Petersb., (7), xxxix, 1893, 905.—ELLIOT, N. Am. Shore Birds, 1895, 70, pl. 17.
- Arquatella maritima couesi* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 366; Check List, 3rd ed., 1910, 113.—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 50 (Atka, Agattu, and Attu islands, Aleutians; Commander Islands; habits).—SWARTH, Univ. Calif. Pub. Zoology, vii, 1911, 50 (Kuiu Island, s. Alaska, May; habits).—TAVERNER, Auk, xxix, 1912, 396 (Clayquot, Vancouver Island, May 11, 1907).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 386 (Providence Bay and East Cape, n. e. Siberia, June, July; St. Lawrence Island, June).
- [*Arquatella maritima*.] Subsp. *α. Arquatella couesi* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 583.
- [*Arquatella maritima* subsp. *couesi* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 73 (Port Etolin, Alaska).
- Tringa crassirostris* (not of Temminck and Schlegel) BOGDANOW, Conspect. Av. Ross., i, 1884, 88.

Genus EROLIA Vieillot.

- Erolia* VIEILLOT, Analyse d'un Nouv. Orn., 1816, 55. (Type, by monotypy, *E. variegata* Vieillot=*Tringa ferruginea* Brünnich.)
- Erolia* (emendation) VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1818, 123.
- Erolia* (emendation) VIEILLOT, Gal. Ois., ii, 1825, 89.
- Falcinellus* (not of Bechstein, 1803 nor Vieillot, 1816) CUVIER, Règne Anim., i, 1817, 486; 2d ed., i, 1829, 527. (Type, *Scolopax pygmaea* Linnæus=*Tringa ferruginea* Brünnich.)
- Ancylocheilus* KAUP, Natürl. Syst., 1829, 50. (Type, *Tringa subarquata* GÜLDENSTÄDT=*T. ferruginea* Brünnich.)
- Ancylocheilus* (emendation) COUES, Check List, 2d ed., 1882, 102, no. 625.

Medium-sized Erolinae (wing about 120–130 mm.) with bill longer than tarsus and distinctly decurved distally, tarsus much longer than middle toe with claw, and bare portion of tibia as long as middle toe without claw and distinctly scutellate anteriorly and posteriorly.

Bill much longer than tarsus (nearly one-third as long as wing), compressed, tapering and distinctly decurved distally, its depth at base equal to about one-sixth the length of exposed culmen, and about one and a half times its width at same point; nasal groove broad but gradually contracted anteriorly, extending nearly to tip of maxilla, the mandible with a much less distinct narrow lateral groove; nostril subbasal, small narrow (linear), its upper edge slightly valvate or operculate; edge of loreal and frontal feathering forming a nearly straight vertical line, considerably posterior to the broadly rounded malar antia, this very slightly if at all posterior to the mental antia. Wing rather long, pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing, the longest tertials falling considerably short of tip of longest primary. Tail about two-fifths as long as wing, truncate, the two middle rectrices abruptly longer than the rest, narrowly rounded or sub-acuminate terminally; rectrices 12. Tarsus much shorter than bill, much longer than middle toe with claw, nearly one-fourth as long as wing, continuously scutellate anteriorly and posteriorly; bare portion of tibia nearly if not quite as long as middle toe without claw, also scutellate before and behind; outer toe slightly but decidedly shorter than middle toe, the inner toe still shorter; no web between basal portion of anterior toes.

Coloration.—Upper tail-coverts usually more or less barred with dusky; summer adults with head, neck, and under parts cinnamon-rufous or chestnut.

Range.—Northern Hemisphere (but chiefly Europe and Asia), migrating to Africa, India, Australia, etc.; occasional in North America.

EROLIA FERRUGINEA (Brünnich).

CURLEW SANDPIPER.

Adult male in summer.—Head, neck, and underparts (except anal region and under tail-coverts) chestnut-rufous or hazel, the pileum streaked (more or less broadly) with dusky, the hindneck very indistinctly if at all streaked, the feathers of under parts often with more or less distinct whitish tips, the chin and anterior portion of forehead sometimes whitish; back, scapulars, and tertials irregularly spotted with black and chestnut-rufous or cinnamon-rufous, the former in form of longitudinal median, more or less cuneate, spots on interscapulars, but of transverse tendency on scapulars and tertials; wing-coverts grayish brown, indistinctly margined with paler, the greater coverts tipped with white; secondaries and proximal primaries grayish brown (slightly darker than coverts), the former narrowly margined with white terminally; primary coverts and distal (longer) primaries dusky, the latter with shafts mostly white; rump grayish brown or

brownish gray, the feathers margined with pale gray or grayish white and with a subterminal lunulate bar of dusky; upper tail-coverts white, broadly but rather sparsely barred with dusky; tail plain grayish brown, darker on middle pair of rectrices, the lateral rectrices narrowly margined terminally with whitish and with shafts white; anal region and under tail-coverts white, the latter sparsely barred or transversely spotted with dusky, both more or less tinged or intermixed with cinnamon-rufous; axillars and under wing-coverts (except along edge of wing) immaculate white; bill dusky, more brownish basally (where olive or olive-greenish in life); iris dark brown; legs and feet olivaceous (more or less dark) in life.

Adult female in summer.—Similar to the adult male and perhaps not always distinguishable but usually with the chestnut-rufous or cinnamon-rufous of under parts somewhat paler, or more broken posteriorly with whitish.

Winter plumage.—Head, neck, back, scapulars, and tertials plain brownish gray or grayish brown, with dusky shaft-streaks; superciliary stripe, upper tail-coverts, and under parts white, the chest indistinctly streaked with grayish; otherwise like summer adults.

Young.—Scapulars and interscapulars dusky, the feathers edged with dull buffy or light ochraceous and margined terminally with whitish; lesser and middle wing-coverts margined terminally with dull buff; otherwise much like winter plumage, but chest and sides of breast washed with dull buff.

Adult male.—Wing, 120–130 (123.8); tail, 43.5–49 (47.2); exposed culmen, 33–38 (35.5); tarsus, 28–31 (29.4); middle toe, 19.5–21 (20).^a

Adult female.—Wing, 121–131 (127.2); tail, 46.5–50.5 (48.1); exposed culmen, 33–42 (37.9); tarsus, 27.5–32 (30); middle toe, 18.5–20 (19.4).^a

Eastern Hemisphere; breeding in northern Greenland (Christianshaab) †, and Yenesei delta, Taimyr Peninsula, etc., northern Siberia; migrating southward to British Islands, Madeira, Canary Islands, southern Africa, Madagascar, Andaman Islands, India, Philippine Islands, Malay Archipelago, Australia, etc.; occasional in eastern North America (Nova Scotia; Toronto, Ontario; near Scarborough, Maine, Sept. 15, 1881; Calais, Maine; Oxford Co., Maine; Essex Co., Massachusetts; Ipswich, Massachusetts; East Boston, Massachusetts, May, 1876; Barnegat Bay, Long Island, July 29, 1904; Shinnecock Bay, Long Island, May 24, 1883; Egg Harbor, Cape May, and Tuckerton, New Jersey; etc.) and in northern Alaska (Point Barrow, June 6, 1883); accidental in Grenada and Carriacou, Lesser Antilles, and in Patagonia.

[*Tringa ferruginea* BRÜNNICH, Orn. Bor., 1764, 53 (Iceland and Christiansøe Island).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands).

^a Five specimens (none from America).

Tringa ferruginea MEYER, Ann. Wett. Ges., i, 1809, 53.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 244.—NELSON, Rep. N. H. Coll. Alaska, 1887, 112 (Point Barrow, June 6, 1883).—CORY, Auk, iv, 1887, 315 (Grenada); Birds West Ind., 1889, 236 (Grenada); Cat. West Ind. Birds, 1892, 93 (Grenada).—PALMÉN, Vega-Exped., Foglef., 1887, 308.—STEJNEGER, Proc. U. S. Nat. Mus., xiv, 1891, 491 (Giotuku, Japan; crit.).—HAGERUP, Birds Greenland, 1891, 55 (n. Greenland, breeding at Christianshaab.).—STONE, Birds, E. Penn. and N. J., 1894, 74 (Egg Harbor, Tuckerton and Cape May, New Jersey).—RIDGWAY, Proc. U. S. Nat. Mus., xviii, 1895, 527 (Aldabra Island, near Madagascar, Nov. 6).—ELLIOT, N. Am. Shore Birds, 1895, 94, pl. 26.—REICHENOW, Deutsch. Tief-see Exped., 7-Bd., 5-Lief., 1904, 353 (Dar-es-Salaam, e. Africa).

[*Tringa*] *ferruginea* RIDGWAY, Man. N. Am. Birds, 1887, 160.

Numenius ferrugineus MEYER, Ann. Wett. Ges., i, 1809, 53.—MEYER and WOLF, Taschenb., ii, 1810, 356.

Tringa (Pelidna) ferruginea PALMÉN, 'Vega'-Exped., 1887, 308 (Taimur-öu, Siberia, Aug. 15; Tschuktsch-halvon, June 10).

Erolia ferruginea CHILDS, Auk, xxi, 1904, 485 (Barriegat Bay, Long Island, July 29, 1904).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 252 (Carricou and Grenada, Lesser Antilles).—FLEMING, Auk, xxiii, 1906, 449 (Toronto, Ontario, 1 spec., about 1886).—AMERICAN ORNITHOLOGISTS' UNION, Check List 3d ed., 1910, 116.—MATHEWS, Birds Australia, iii, 1913, pl. [162] facing p. 266.—DABBENE, Bol. Soc. Phys. B. A., 1913, 244 (Patagonia).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 18 (Nijni Kolymak, etc., e. Siberia; habits; crit.).

Scolopax subarquata GÜLDENSTÄDT, Nov. Comm. Petrop., xix, 1775, 471, pl. 18 (near Caspian Sea to Tanain and River Choper).

[*Scolopax*] *subarquata* GMELIN, Syst. Nat., i, pt. ii, 1789, 658.—TURTON, Syst. Nat., i, 1806, 394.

Numenius subarquata BECHSTEIN, Orn. Taschenb., ii, 1803, 276.

Tringa subarquata TEMMINCK, Man. d'Orn., 1815, 393; 2nd ed., 1820, 609.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 454.—BOIE, Isis, 1822, 560.—ROUX, Orn. Prov., 1825, pls. 285, 286.—WERNER, Atlas, Gallatores, 1827, pl. 9.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 317.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 104.—NAUMANN, Vög. Deutschl., viii, 1834, 408, pl. 185.—AUDUBON, Orn. Biog., iii, 1835, 444 pl. 263; Synopsis, 1839, 234; Birds Am., 8vo. ed., v, 1842, 269, pl. 333.—GOULD, Birds Europe, iv, 1837, pl. 328 and text.—BREWER, Journ. Bost. Soc. N. H., 1837, 437 (Massachusetts); Ibis, 1879, 375 (n. Greenland); Bull. Nutt. Orn. Club, iv, 1879, 190 (descr. alleged eggs from Christianshaab, n. Greenland).—FRASER, Proc. Zool. Soc. Lond., 1839, 122 (Erzeroum, Turkey).—PEABODY, Rep. Orn. Mass., 1839, 366.—MÜHLE, Orn. Griechenl., 1840, 104 (Sept., May).—NORDMANN, in Demid., Voy. Russ. Mérid., iii, 1840, 239 (in migration).—SELYS-LONGCHAMPS, Faune Belge, 1842, 124.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 71; Hist. Brit. Birds, iv, 1852, 215.—BLYTH, Proc. Zool. Soc. Lond., 1842, 94 (Europe; India).—GIRAUD, Birds Long Is., 1844, 237.—SCHLEGEL, Rev. Crit., 1844, p. lxxxviii; Vog. Nederl., 1854, pl. 230; Dier. Nederl. Vogels, 1861, pl. 24, fig. 3; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 31; Proc. Zool. Soc. Lond., 1866, 425 (Madagascar).—YARRELL, Hist. Brit. Birds, 2d ed., iii, 1845, 47; 3d ed., iii, 1856, 50.—DEGLAND, Orn. Eur., ii, 1849, 225.—THOMPSON, Birds Ireland, ii, 1850, 284.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—MIDDENDORFF, Reis. Sibir., Zool., 1851, 220 (Tundra of Taimyr River, lat. 74° N., breeding; Boganida River, May 27).—KJAERBÖLLING, Orn. Dan., Suppl., 1852, pl. 16, fig. 1.—PÄSSLER, Journ. für Orn., 1853, 242

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- Erolia variegata* VIEILLLOT, Analyse, 1816, 69 (Africa).
- Erolia varia* VIEILLLOT, Gal. Ois., ii, 1825, 89, pl. 231.
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- Schenichus chinensis* GRAY, List Birds Brit. Mus., Grallæ, 1844, 104.
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- Pelidna macrorhynchos* BREHM, Vög. Deutschl., 1831, 658 (Baltic Sea).

Falcinellus cuvieri BONAPARTE, Geog. and Comp. List, 1838, 50 (new name for *Scolopax pygmaeus* Linnæus).

Pelidna arguata BREEH, Vogelf., 1855, 316 (n. e. Africa, rarely to s. e. Europe).

Genus PELIDNA Cuvier.

Pelidna CUVIER, Règne Anim., i, 1817, 490. (Type, as designated by Gray, 1840, *Tringa cinclus* Linnæus = *T. alpina* Linnæus.)

Scheniclus GRAY, List Birds Brit. Mus., iii, 1844, 104 (ex Moehring, 1752). (Type, *Tringa cinclus* Linnæus = *T. alpina* Linnæus.)

Medium-sized Erolinæ (wing 103–126 mm.) with bill longer than tarsus, faintly decurved terminally, compressed, the tip not dilated; tarsus longer than middle toe with claw, and tail slightly emarginate (but middle pair of rectrices projecting and pointed). (Closely resembling *Erolia*, but tarsus and bill relatively shorter, the latter not distinctly decurved; lateral membrane of anterior toes much less developed; tail emarginate instead of truncate, the middle pair of rectrices more pointed, and coloration very different.)

Bill longer than tarsus, decidedly less than one-third as long as wing, compressed, tapering and very faintly decurved distally, its depth at base equal to about one-fifth the length of exposed culmen and nearly twice its width at same point; nasal groove broad, tapering anteriorly, the extreme anterior, very narrow, portion extending nearly to tip of bill; mandible also with a narrow lateral groove: nostril subbasal, small, narrowly elliptical, longitudinal; edge of loreal feathering advancing farther forward than that of forehead, which forms a rather deep concavity at base of culmen; malar antia decidedly anterior to loreal antia, the mental antia still more anterior (nearly on vertical line with posterior end of nostril). Wing rather long, pointed, the longest primary (outermost) exceeding distal secondaries by decidedly more than half the length of wing; longest, almost lanceolate, tertials falling decidedly short of tip of longest primary. Tail more than two-fifths as long as wing, slightly emarginate, the middle pair of rectrices projecting decidedly beyond the rest (longer even than lateral rectrices) and acuminate or subacuminate. Tarsus shorter than exposed culmen, nearly one-fourth as long as wing, continuously scutellate anteriorly and posteriorly: bare portion of tibia about as long as first two phalanges of middle toe, also scutellate before and behind; middle toe, without claw, about three-fourths as long as tarsus; lateral toes decidedly shorter than middle toe, the inner very slightly shorter than the outer; no web between bases of anterior toes.

Coloration.—In summer, pileum, back, and scapulars brown or rusty broadly streaked or longitudinally spotted with black; under parts mostly white, with a large area of blackish on breast and sides of abdomen, the chest and foreneck streaked with blackish. In winter nearly plain brownish gray above and without black on under parts.

Range.—Northern Hemisphere (more southerly in migration). (Monotypic.)

KEY TO THE SUBSPECIES OF *PELIDNA ALPINA*.

- a. Averaging smaller, with relatively shorter bill and tarsus (wing 104–114, averaging 107.4, in male, 103–117, averaging 110.9, in female; exposed culmen 26–31, averaging 28.6, in male, 26.5–36.5, averaging 32.5, in female; tarsus 21–24, averaging 23.1, in male, 22–25, averaging 23.5, in female); coloration duller, the summer adult with dorsal region variegated with black and dull ochraceous or buffy, and blackish of abdomen not in abrupt contrast with speckled or otherwise variegated dull grayish of breast. (Europe and western Asia; southern Greenland; casual on west shore of Hudson Bay.) *Pelidna alpina alpina* (p. 257).
- aa. Averaging larger, with relatively longer bill and tarsus (wing 108.5–125.5, averaging 115.9, in male, 114–125, averaging 117.4, in female; exposed culmen 31–41, averaging 35.6, in male, 34–42, averaging 38.3, in female; tarsus 23–28, averaging 25.2, in male, 25–27, averaging 26, in female); coloration brighter, summer adults with dorsal region bright orange-cinnamon variegated with black, the black of abdomen abruptly contrasted with the nearly immaculate grayish white of breast. (North America and northeastern Asia.)

Pelidna alpina sakhalina (p. 262).

PELIDNA ALPINA ALPINA (Linnaeus.)

DUNLIN.

Adults in summer (sexes alike).—Pileum streaked with wood brown and dusky (the latter usually predominating); hindneck dull grayish white, tinged with wood brown and streaked with dusky; scapulars and interscapulars black centrally, broadly margined with cinnamon or cinnamon-brown, the cinnameous margins broadest on scapulars, the black predominating on interscapulars; wing-coverts brownish gray, narrowly but distinctly margined with grayish white, the greater coverts tipped with white; primary coverts and remiges dusky, the secondaries narrowly tipped, or terminally margined, with white, the proximal primaries edged with white basally; rump grayish brown, the feathers with indistinct narrow shaft-streaks of dusky and very indistinct, narrow, paler terminal margins; median upper tail-coverts dark grayish brown or dusky, the lateral coverts immaculate white; middle pair of rectrices dusky, edged on distal portion of outer webs with paler; rest of tail pale brownish gray, the rectrices narrowly edged with white or grayish white; sides of head and neck dull grayish white narrowly streaked with dusky, the sub-orbital and auricular regions tinged with brown; chin, throat, fore-neck, chest, and breast dull white streaked (except on chin and extreme upper throat) with dusky, the streaks becoming gradually larger and more sharply defined on chest and breast, where sometimes spot-like; abdomen more or less clouded with dull black, this often forming a large, well-defined area, broken only by narrow whitish tips to some of the feathers; sides, flanks, and under tail-coverts

white, sometimes immaculate but usually with a few very narrow streaks of dusky; axillars and most of under wing-coverts immaculate white; bill blackish; iris dark brown; legs and feet blackish (dark olivaceous in life).

Winter plumage.—Upper parts mostly plain brownish gray, with indistinct dusky shaft-streaks; an indistinct superciliary stripe, together with whole of under parts, white, the neck and chest indistinctly streaked with grayish, the sides and flanks sometimes with a few narrow streaks; otherwise as in summer.

Young.—Scapulars and interscapulars dusky, broadly margined with cinnamon or cinnamon-buff, this becoming paler (often whitish) on tips of some feathers; wing-coverts margined with buffy; pileum light rusty buff or cinnamon, streaked with blackish; sides of head and neck dull buffy, indistinctly streaked with dusky; under parts white, the breast and abdomen spotted with blackish.

Downy young.—Forehead and posterior portion of crown buff, or pinkish buff, divided medially by a rather broad streak of blackish brown, confluent posteriorly with an area of mixed blackish brown and light brown occupying greater part of crown and occiput, the latter rather sparsely flecked or spotted with pale dull buffy; hindneck pale dull buffy mottled with brownish; back, rump, and wings snuff brown mottled or intermixed with brownish black, the back minutely, the rump more coarsely, dotted or spangled with pale buff or buffy whitish; sides of head and neck dull buffy white, relieved by an indistinct auricular spot of dusky; under parts dull buffy white strongly tinged on chest with cinnamon-buff.

Adult male.—Wing, 104–114 (107.4); tail, 44.5–50.5 (46.9); exposed culmen, 26–31 (28.6); tarsus, 21–24 (23.1); middle toe, 17–21 (19).^a

Adult female.—Wing, 103–117 (110.9); tail, 46–51.5 (48.4); exposed culmen, 26.5–36.5 (32.5); tarsus, 22–25 (23.5); middle toe, 18–20 (18.9).^b

Breeding in northern Europe (Iceland, Faroe Islands, British Islands, Norway, Denmark, etc.) and northern Asia (north to about lat. 74°); migrating southward to Mediterranean basin, Madeira, Canary Islands, Zanzibar, and islands north of Madagascar, "and along the valleys of the Kama and Volga, and through Turkestan to winter on the shores of the Caspian and on the Mekran coast,"^c eastward to India (Calcutta, Lucknow, etc.); occasional in southern Greenland;^d accidental in North America (Fort Churchill, Keewatin,

^a Seven specimens.

^b Thirteen specimens.

^c Seebohm, Geogr. Distr. Charadriidæ.

^d The status of Greenland birds of this species is a matter of great uncertainty, and the Greenland references here given under *P. a. alpina* and *P. a. sakhalina*, respectively, may, in some instances at least, be wrongly placed. Very singularly, the

2 specs., prior to 1845; Choris Peninsula, Alaska; Shinnecock Bay, Long Island Sept. 15, 1892.)^a

[*Tringa alpina* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 149 (Lapland); ed. 12, i, 1766, 249.—BRÜNNICH, Orn. Bor., 1764, 52.—GMELIN, Syst. Nat., i, pt. ii, 1789, 676.—LATHAM, Index Orn., ii, 1790, 736.—TURTON, Syst. Nat., i, 1806, 407.

Tringa alpina FABRICIUS, Fauna Groenlandica, 1780, 111.—BODDAERT, Tabl. Pl. Enl., 1783, 52 (Pl. Enl., pl. 852).—TEMMINCK, Cat. Syst., 1807, 171.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 455.—BOIE, Isis, 1822, 561; Journ. für Orn., 1869, 96.—LESSON, Traité d'Orn., 1831, 559.—NAUMANN, Vög. Deutschl., vii, 1834, 427, pl. 186.—KAUP, Thierr., ii, pt. i, 1836, 317.—NORDMANN, in Demid. Voy. Russ. Mérid., iii, 1840, 238.—YARRELL, Brit. Birds, ii, 1843, 658.—KJÆRBØLLING, Danm. Fugle, Suppl., 1852, pl. 16, fig. 2.—LILLJEBORG, Naumannia, 1882, 114 (Tromsø, Norway).—TOBIAS, Journ. für Orn., 1853, 214 (Oberlausitz).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland).—SCHILLING, Journ. für Orn., 1853, 374 (Rügen).—MÜLLER, Journ. für Orn., 1856, 230 (Provence).—TRISTRAM, Ibis, 1860, 80 (n. Africa); Fauna and Flora Palestine, 1884, 132.—POWYS, Ibis, 1860, 343 (Epirus).—SUNDEVALL, Svensk Fogl., 1860, pl. 43, figs. 1, 2.—NEWTON, in Baring-Gould's Iceland, 1863, 413; Man. N. H. Greenland, 1875, 103.—GRAY, List Brit. Birds, 1863, 167.—BLAKISTON, Ibis, 1863, 132 (Hudson Bay).—MORE, Ibis, 1865, 438 (breeding range in England).—DRAKE, Ibis, 1867, 429 (Tangier, Morocco).—SMITH, Ibis, 1868, 455 (Portugal).—DROSTE, Journ. für Orn., 1869, 344 (Faroe Islands).—ELWES and BUCKLEY, Ibis, 1870, 330 (Black Sea, Turkey).—LÜDDE, Journ. für Orn., 1871, 301 (Stralsund).—HARTING, Proc. Zool. Soc. Lond., 1871, 115 (Choris Peninsula; crit.); Handb. Brit. Birds, 1872, 49; Proc. Zool. Soc. Lond., 1874, 242.—REY, Journ. für Orn., 1872, 154 (Portugal).—DURNFORD, Ibis, 1874, 400 (North Frisian Islands).—DANFORTH and HARVEY-BROWN, Ibis, 1875, 422 (Transylvania).—SCULLY, Stray Feath., iv, 1876, 187 (e. Turkestan, breeding).—DRESSER, Ibis, 1876, 411 (Turkestan); Birds Europe, viii, 1876, 21, pl. 548.—SEEBOHM, Ibis, 1879, 151 (Yenesei, Siberia, lat. 69°–70½° N., breeding; descr. downy young; molt); 1882, 224 (Astrakhan), 381 (Archangel, n. Russia); 1883, 30 (Caucasus, in migration); 1892, 25 (Helgoland); Hist. Brit. Birds, iii, 1885, 184; Geog. Distr. Charadriidæ, 1887, pp. xxv, 425, figs.—FINSCH, Verh. z.-b. Ges. Wien, xxix, 1879, 251 (tundra of Podarata River, breeding).—ELWES, Ibis, 1880, 392 (Denmark; breeding?).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 169.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 337; Ibis, 1884, 389 (St. Jean de Luz, March); Man. Brit. Birds, 1889, 569.—SEVERTZOV, Ibis, 1883, 75 (Pamir Range, centr. Asia, Sept.).—IRBY, Ibis, 1883, 187 (Santander, Spain, May).—RADDE, Orn. Caucas., 1884, 428 (Caspian Sea, winter).—WHITEHEAD, Ibis, 1885, 42 (Corsica, May).—DIXON, Ibis, 1885, 86 (St. Kilda).—YERBURY, Ibis, 1886, 21 (Aden, winter).—SHARPE, Ibis, 1886,

American Ornithologists' Union Check List (several editions) as well as the Catalogue of Birds in the British Museum (vol. xxiv) both completely ignore Greenland in the geographic ranges of the two forms as there given.

^a The A. O. U. Check List (3rd ed., 1910, p. 116) states that *P. a. alpina* is accidental in "Massachusetts, New York, and District of Columbia;" but I have not been able to find the records, except that for New York (probably the Shinnecock Bay occurrence). I believe, however, that the alleged occurrence in the District of Columbia, based by H. M. Smith in Auk, iii, 1886, 140, on old entries in the U. S. National Museum catalogue of "*Tringa alpina*" and "*Pelidna alpina*" is an error, the specimens there referred to probably being both *P. a. sakhalina*.

- 167 (Muscat).—AMERICAN ORNITHOLOGISTS' UNION, Check List. 1886. and 2nd ed., 1895, no. 243.—TAIT, Ibis, 1887, 390 (Portugal).—CHAPMAN, Ibis, 1888, 445 (Spain, Sept.).—BRUSINA, Motr., etc. (Orn. Croat.) 1890, 88.—CLARKE (W. E.), Auk, vii, 1890, 321 in text (Fort Churchill, Keewatin).—WALTER, Journ. für Orn., 1890, 238, 242, 247 (e. Spitzbergen).—OGILVIE-GRANT, Ibis, 1890, 442 (Madeira).—GÄTKE, Vogelw. Helgoland. 1891, 520.—SCHALOW, Journ. für Orn., 1891, 259 ("insulis Oceani orientalis").—HART, Fauna and Flora Sinai, 1891, 226 (Gaza; Ayum Musca).—MADARÁSZ, Aust. Ungar. Vogelf., 1891, 110.—FRIVALDSKY, Av. Hung., 1891, 146 (autumn).—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 48.—LILFORD, Col. Figs. Brit. Birds, pt. xxiv, 1893.—YOUNG, Auk, x, 1893, 78 (Shinnecock Bay, Long Island, 1 spec., Sept. 15, 1892).—BLAGG, Ibis, 1893, 356 (Unst. Shetland Islands).—BARNES, Ibis, 1893, 171, 181 (Aden).—MEADE-WALDO, Ibis, 1893, 204 (Canary Islands).—REICHENOW, Vög. Deutsch Ost-Afrika, 1894, 41.—REISER, Orn. Balcanica, 1894, 169.—PEARSON and BIDWELL, Ibis, 1894, 234 (n. Norway, breeding).—CHAPMAN, Ibis, 1894, 343 (w. Jutland).—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 143, pl. 31.—WHITAKER, Ibis, 1895, 106 (Tunis, Algeria).—ELLIOT, N. Am. Shore Birds, 1895, 89.—PEARSON, Ibis, 1896, 218 (Kolguev, Russia, breeding; descr. eggs and young); 1898, 200 (Waigats, Dolgoi Island, and Habarova, Russia, breeding; descr. eggs).—POPHAM, Ibis, 1897, 103 (Golchika, Yenesei River, Siberia, north of 71°; descr. downy young); 1898, 515 (Yeneseisk and Golchika, Yenesei River; descr. eggs).—GRANT, Novit. Zool., viii, 1900, 249 (s. Arabia).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands); Ibis, 1904, 423 (mouth of Lena River, Siberia).—JESSE, Ibis, 1903, 164 (Lucknow, India).
- [Tringa] alpina* RIDGWAY, Man. N. Am. Birds, 1887, 159.
- Scolopax alpina* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 176, part.
- Pelidna alpina* BREHM, Vög. Deutschl., 1831, 661.—ZANDER, Archiv Mecklenb., xv, 1861, 117 (Meklenburg).—HEINTZ, Journ. für Orn., 1863, 427 (Pomerania).—SALVADORI, Faun. Ital., Ucc., 1871, 212.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 539); Nom. N. Am. Birds, 1881, no. 539.—COUES, Check List, 2nd ed., 1882, no. 623.—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 586 (Olga Bay, s. e. Siberia; crit.).—KOENIG, Journ. für Orn., 1890, 456 (Canary Islands); 1898, 90 (Tunis).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 602, 768.
- [Pelidna alpina]* COUES, Key N. Am. Birds, 2nd ed., 1884, 631.
- [Pelidna] alpina* SHARPE, Hand-list, i, 1899, 164.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 73.
- [Pelidna alpina] a. alpina* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 241.
- (?) *Tringa (Pelidna) alpina* PALMÉN, 'Vega' Exped., 1887, 309 (Tschuktsch-halbon, Siberia, June).
- [Tringa alpina var. americana]* a. *alpina* COUES, Birds Northwest, 1874, 439 (synonymy).
- Pelidna alpina alpina* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 116.—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 17 (characters).
- [Tringa] cinclus* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 251 (Europe; based on Brisson, Orn., v, 1760, 211, pl. 19, fig. 1).—GMELIN, Syst. Nat., i, pt. ii, 1789, 680.—LATHAM, Index Orn., ii, 1790, 735.—TURTON, Syst. Nat., i, 1806, 410.—REINHARDT, Journ. für Orn., 1854, 144 (England).—GRAY, Hand-list, iii, 1871, 49, no. 10310.

Tringa cinclus BODDAERT, Tabl. Pl. Enl., 1783, 52 (Pl. Enl., pl. 851).—LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 30.—ROUX, Orn. Prov., 1825, pl. 287.—SELYS-LONGCHAMPS, Faune Belge, 1842, 125.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 70; Brit. Birds, iv, 1852, 203.—MÜHLE, Beitr. Orn. Griechenl., 1844, 105.—SCHLEGEL, Rev. Crit., 1844, p. lxxxix; Vog. Nederl., 1854, pl. 231; Dier. Nederl. Vogels, 1861, pl. 24, figs. 10, 11; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 32.—HEUGLIN, Syst. Ueb., 1856, 63 (Egypt and Red Sea, to end of May); Ibis, 1872, 62 (Waigats Islands, n. Russia, breeding); Journ. für Orn., 1872, 119 (Waigats Island); Orn. N. O.-Afrika, ii, Abth. i, 1873, 1183 (Red Sea; Gulf of Aden; Senaar; Kordofan; Tana Lake).—REINHARDT, Ibis, 1861, 11 (Greenland).—IRBY, Ibis, 1861, 240 (India); Orn. Straits Gibralt., 1875, 173.—ALTUM, Journ. für Orn., 1863, 108 (Münsterland).—WRIGHT, Ibis, 1864, 148 (Malta, in migration).—DROSTE, Journ. für Orn., 1864, 422 (Borkum).—TRISTRAM, Proc. Zool. Soc. Lond., 1864, 452 (Palestine).—BLANFORD, Geol. and Zool. Abyssinia, 1870, 433 (Zoulla, Jan.); East. Persia, ii, 1876, 283 (Gwadar; Shiraz, Dec.).—FINSCH and HARTLAUB, Vög. Ost-Afrika, 1870, 758.—GODMAN, Ibis, 1872, 221 (Canary Islands).—SHELLEY, Birds Egypt, 1872, 253.—BROOKE, Ibis, 1873, 339 (Sardinia).—LLOYD, Ibis, 1873, 417 (Kattiawar, India).—HUME, Stray Feath., i, 1873, 243 (Karachi, India); vii, 1878, 228 (Raipur, India), 437 (Calcutta).—ADAM, Stray Feath., i, 1873, 396 (Sambhur, India, winter).—SIEBOHM and HARVIE-BROWN, Ibis, 1876, 293 (lower Petchora River, Russia, breeding; habits).—HARTLAUB, Vög. Madagascar, 1877, 331.—BUTLER, Stray Feath., v, 1877, 233, 236 (Karachi).—BOGDANOW, Birds Caucas., 1879, 158.—BUTLER, Cat. Birds Sind, etc., 1879, 63.—MURRAY, Vertebr. Faun. Sind, 1884, 251.—CLARKE (W. E.), Zoologist, 1890, 12 (Jan Mayen Land).

Tr[inga] cinclus KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxvi, 215.

Tr[inga] cinclus GRAY, Gen. Birds, iii, 1845, 579.

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[*Schoeniclus*] *cinclus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 329 (Pomerania).

(?) [*Scolopax*] *pusilla* GMELIN, Syst. Nat., i, pt. ii, 1789, 663 (England; based on *Gallinago anglicana* Brisson, Orn., v, 1760, 309; *Dunlin*, Pennant, Brit. Zool., ii, no. 205; etc.).

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Tringa variabilis MEYER and WOLF, Taschenb., ii, 1810, 397.—TEMMINCK, Man. d'Orn., 1815, 395; 2nd ed., ii, 1820, 612; iv, 1840, 399.—WERNER, Atlas, Gallatores, 1827, pl. 11.—FOX, Newcastle Mus., 1827, 86.—GOULD, Proc. Zool. Soc. Lond., 1834, 51, 133 (Trebizond, Persia).—STRICKLAND, Proc. Zool. Soc. Lond., 1836, 101 (Smyrna).—HAY, Proc. Zool. Soc. Lond., 1840, 135 (Tangier, Morocco).—WEBB and BERTHELOT, Orn. Canar., 1841, 38.—HODGSON, in Gray's Zool. Misc., 1884, 86.—FRASER, Proc. Zool. Soc. Lond., 1844, 67 (Tripoli).—YARRELL, Hist. Brit. Birds, 2nd ed., iii, 1845, 81; 3rd ed.,

- iii, 1856, 80.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—HEUGLIN, Ibis, 1859, 347 (Red Sea).—FINSCH, Journ. für Orn., 1859, 336 (Bulgaria).—GIEBEL, Vög., 1860, 378, fig. 678.—HEWITSON, Eggs Brit. Birds, ii, 1846, 313, pl. 88, figs. 1, 2.—THOMPSON, Birds Ireland, ii, 1850, 288.—BOLLE, Journ. für Orn., 1855, 176 (Canary Islands).—GODMAN (F. and P.), Ibis, 1861, 90 (Bodo, Norway).—HOMEYER, Journ. für Orn., 1862, 429 (Balearic Islands).—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 208 (Madeira).—SEVERTZOV, Turkest. Jevotn., 1873, 69 (migrant).—FALLON, Ois. Belg., 1875, 168.—LILFORD, Ibis, 1889, 340 (Cyprus, April, May).
- Pelidna variabilis* STEPHENS, Shaw's Gen. Zool., xii, pt. i, 1824, 98, pl. 88.—BREHM, Vög. Deutschl., 1831, 662.—OLPHE-GALLIARD, Contr. Faun. Orn. Eur. Occ., fasc. xiv, 1891-91.
- Tringa schinzii* BREHM, Beitr. Vogelk., iii, 1822, 355 (new name for *Scolopax pusilla* Gmelin).—NAUMANN, Vög. Deutschl., vii, 1834, 453, pl. 187.—NORDMANN, in Demid. Voy. Russ. Mérid., iii, 1840, 238 (Odessa); Journ. für Orn., 1864, 375 (Finland).—TEMMINCK, Man. d'Orn., iv, 1840, 400 (not of p. 401!).—SELYS-LONGCHAMPS, Faune Belge, 1842, 125.—LINDERMAYER, Vög. Griechenl., 1860, 143.—REINHARDT, Ibis, 1861, 11 (Greenland).—FALLON, Ois. Belg., 1875, 169.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 49.—CLARKE (W. E.), Zoologist, 1890, 13 (Jan Mayen Land).—GÄTKE, Vogelw. Helgoland, 1891, 521.—FRIVALDSKY, Av. Hung., 1891, 146.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 48.
- Tringa schinzi* SPERLING, Ibis, 1868, 292 (Zanzibar).
- Pelidna schinzii* BREHM, Vög. Deutschl., 1831, 663.—BONAPARTE, Geog. and Comp. List, 1838, 50, part.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 312.—FRITSCH, Journ. für Orn., 1871, 387 (Bohemia).—SHARPE, Handb. Brit. Birds, iii, 1896, 330.
- Pelidna calidris* BREHM, Vög. Deutschl., 1831, 663 (Naples).
- Tringa cinclus minor* SCHLEGEL, Rev. Crit., 1844, p. lxxxix (new name for *Tringa schinzii* Brehm); Vög. Nederl., 1854, pl. 232.
- Tringa torquata* DEGLAND, Orn. Eur., ii, 1849, 230 (ex *Cinclus minor et torquatus* Brisson, Orn., v, 1760, 216, pl. 19, fig. 2).
- Pelidna torquata* DEGLAND and GERBE, Orn. Eur., ii, 1867, 199.
- Tringa subarquata* (not *Scolopax subarquata* GÜLDENSTÄDT) NEWTON, Ibis, 1864, 132 (Iceland).
- T[ringa] alpina typica* STEJNEGER, Auk, v, July, 1888, 307, in text (crit.).

PELIDNA ALPINA SAKHALINA (Vieillot).

AMERICAN DUNLIN.

Similar to *P. a. alpina* but averaging decidedly larger, with relatively longer bill and legs, and, in summer plumage, decidedly more brightly colored, with cinnamonaceous markings of upper parts brighter, more rusty (orange-cinnamon) and the black abdominal area more conspicuously contrasted with the nearly immaculate white or grayish white of breast.

Adult male.—Wing, 108.5-125.5 (115.9); tail, 42-57 (52); exposed culmen, 31-41 (35.6); tarsus, 23-28 (25.2); middle toe, 18.5-22 (20).^a

^a Twenty-five specimens.

Adult female.—Wing, 114–125 (117.4); tail, 44.5–56 (53); exposed culmen, 34–42 (38.3); tarsus, 25–27 (26); middle toe, 19.5–22 (20.4).^a

North America and eastern Asia; breeding from northern Ungava, Boothia, Melville Peninsula, etc., westward through Arctic districts to mouth of Yukon River, and along Arctic coast of Siberia westward to mouth of the Yenesei River; migrating southward to southern Florida (Tarpon Springs; St. Johns Pass), Louisiana, Texas (Fort Brown; Tom Green County), Arizona (Tucson) and Lower California (San Quentin Bay; south of lat. 24° 30'), and through Kamchatka, Korea, Japan, China, etc., to Formosa and Malay Archipelago. (No record from any portion of middle America, except Lower California.)

[*Tringa*] *alpina* (not of Linnæus, 1758) LATHAM, Index Orn., ii, 1790, 736, part.

Tringa alpina WILSON, Am. Orn., vii, 1813, 25, pl. 56, fig. 2.—BONAPARTE, Ann.

Lyc. N. Y., ii, 1828, 317.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 383.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 106.—AUDUBON, Orn. Biog., iii, 1835, 580, pl. 290; Synopsis, 1839, 234; Birds Am., 8vo ed., v, 1842, 266, pl. 333.—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—PEABODY, Rep. Orn. Mass., 1839, 367.—GIRAUD, Birds Long Is., 1844, 228.—CASSIN, Proc. Ac. Nat. Sci. Phila., x, 1858, 196 (Japan); xiv, 1862, 322 (Seniavine Straits); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 719.—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—BLAKISTON, Ibis, 1862, 330 (Japan).—SWINHOE, Ibis, 1863, 97 (n. China); 1866, 136 (Formosa, Sept.); 1870, 363 (Hainan); 1873, 368 (Shanghai, April).—WEIZ, Proc. Bost. Soc. N. H., x, 1866, 267 (Labrador).—WHITELY, Ibis, 1867, 205 (Hakodate, Japan, Nov., Jan.).—HARTING, Proc. Zool. Soc. Lond., 1871, 115 (Bering Straits).—ADAMS, Ibis, 1878, 438 (St. Michaels, Alaska, breeding).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas).—MAYNARD, Birds E. N. Am., 1879, 384.—SEEBOHM, Ibis, 1884, 268 (Kiu-Kiang, China); Birds Japanese Emp., 1890, 334.—SMITH

^a Seventeen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic coast United States (migrants).....	114.5	51	36	25.3	20.2
Ten adult males from coast of Alaska.....	117.3	52.7	35.4	25.4	19.9
Three adult males from Bering Island, Kamchatka.....	114.8	52.7	34.7	24.5	20.2
One adult male from Korea (migrant).....	117	50.5	33.5	24	19.5
One adult male from Japan (migrant).....	120	54	38.5	27	20
Seven adult males of <i>P. a. alpina</i>	107.4	46.9	28.6	23.1	19
FEMALES.					
Ten adult females from Atlantic coast of United States (mi- grants).....	117.8	53.4	39.4	26.3	20.8
Five adult females from Alaska.....	118.2	52.2	38	25.7	19.9
One adult female from Bering Island.....	121	52.5	36.5	26	19.5
One adult female from Japan.....	116.5	53.5	39	26	20.5
Thirteen adult females of <i>P. a. alpina</i>	110.9	48.4	32.5	23.5	18.9

- (H. M.), Auk, iii, 1886, 140 (Washington, D. C., Oct. 22).—LLOYD, Auk, iv, 1887, 186 (Tom Green Co., w. Texas, Oct.).—HAGERUP, Birds Greenland, 1891, 55.—CAMPBELL, Ibis, 1892, 246 (Korea).
- T[ringa] alpina* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 92 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [174].—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Mass.).
- Scolopax alpina* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 176, part.
- Pelidna alpina* STEJNEGER, Proc. U. S. Nat. Mus., vi, 1883, 69 (Bering Island).—SMITH (H. M.), Auk, iii, 1886, 140 (Washington, D. C., Oct. 20).
- Tringa variabilis* (not *Numenius variabilis* Bechstein) SABINE, Suppl. Parry's First Voy., 1819, p. cc.; in Franklin's Journ., 1823, 686.—RICHARDSON, in Parry's Second Voy., 1824, 353.—TEMMINCK and SCHLEGEL, Fauna Japonica, Aves, 1847, 108.—DYBOWSKI, Journ. für Orn. 1868, 337 (Darasun).
- Tringa cinclus* (not of Linnæus) WILSON, Am. Orn., vii, 1813, 39, pl. 57, fig. 3.—MIDDENDORFF, Reis. Sibir., Zool., 1851, 22 (Taimyr River; Boganida River, breeding).—REINHARDT, Journ. für Orn., 1854, 441 (Greenland); Ibis, 1861, 11 (Greenland).—SCHRENCK, Reis. Amurl., 1859, 421 (Amur River, May).—SWINHOE, Ibis, 1860, 66 (Amoy); 1861, 412 (Amoy); 1863, 411 (Formosa); 1875, 455 (Hakodate); Proc. Zool. Soc. Lond., 1863, 316 (China).—HOMER, Journ. für Orn., 1870, 425 (e. Siberia).—TACZANOWSKI, Bull. Soc. Zool. France, i, 1876, 253 (Kultuk); Journ. für Orn., 1881, 187 (Askold Island, e. Siberia); Proc. Zool. Soc. Lond., 1887, 610 (Seoul, Korea, Nov.); 1888, 468 (Korea).—BLAKISTON and PRYER, Ibis, 1878, 221 (Yezo and Tokyo, Japan).—DYBOWSKI, Bull. Soc. Zool. France, ix, 1884, 146 (Kamchatka).—BLAKISTON, Amend. List Birds Japan, 1884, 11.—STYAN, Ibis, 1891, 330, 506 (lower Yangtze River, April, May, Oct., Nov.); 1893, 437 (Hainan).—DE LA TOUCHE, Ibis, 1892, 498 (Foochow).
- T[ringa] cinclus* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 93 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [175].
- Pelidna cinclus* BONAPARTE, Geog. and Comp. List, 1838, 50.—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (Europe and N. Am.).
- Tringa alpina*, var. *americana* (not *Pelidna americana* Brehm, 1855)^a CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 719 (United States; crit.).—BAIRD, Cat. N. Am. Birds, 1859, no. 530.—BLAKISTON, Ibis, 1863, 132 (Hudson Bay; Saskatchewan; Arctic coast).—BROWN, Ibis, 1868, 425 (Vancouver Island).—SNOW, Birds Kansas, 1873, 10.—MERRIAM, 6th Annual Rep. U. S. Geol. Surv. Terr. for 1872, (1873), 714 (Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1874, 11 (Ogden, Utah).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas, May).
- Tringa alpina*, var.: *americana* TURNBULL, Birds E. Penn. and N. J., 1869, 39 (Phila. ed., 30).
- Tringa alpina* . . . var. *americana* COUES, Check List, 1873, no. 424; Birds Northwest, 1874, 489 (excel. syn. under "*a. alpina*").
- [*Tringa*] *alpina* var. *americana* COUES, Key N. Am. Birds, 1872, 256.
- [*Tringa alpina* var. *americana*] b. *am ericana* COUES, Birds Northwest, 1874, 490.
- T[ringa] alpina* var. *americana* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois).
- Tringa alpina*, β *americana* RIDGWAY, Field and Forest, ii, June, 1877, 211 (Colorado).
- Tringa alpina americana* HARTLUB, Journ. für Orn., 1883, 280 (Chilcat River, Alaska).

^a=*Pisobia fuscicollis*. (See Stejneger Bull. U. S. Nat. Mus., no. 29, 1885, 121, in text.)

Pelidna americana (not of Brehm, 1855) COUES, Proc. Ac. Nat. Sci. Phila., 1861, 188 (monogr.); xxiii, 1871, 30 (Fort Macon, North Carolina); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 294 (New England); Am. Nat., v, 1871, 366.—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Mass.); Am. Nat., vi, 1872, 267 (Leavenworth, Kansas), 351 (Colorado City, Colo.); Bull. Mus. Comp. Zool., ii, 1871, 355 (e. Florida, winter).—McILWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (New Jersey).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 608, 769.

[*Pelidna americana* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 73 (Formosa; etc.).]

Pelidna alpina, var. *americana* DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 291 (St. Michaels, Alaska; Brit. Columbia).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 182 (Great Salt Lake Valley).

Pelidna alpina americana RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 200 (Cat. N. Am. Birds, no. 539a); Nom. N. Am. Birds, 1881, no. 539a.—COUES, Check List, 2d ed., 1882, no. 264.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 165, 173 (Cape Lisburne and Icy Cape, and Point Belcher, Alaska; Plover Bay, e. Siberia).—NELSON, Cruise 'Corwin' in 1881 (1883), 88 (coasts Bering Sea n. of Kotzebue Sound; Cape Wankarem, e. Siberia).—BELDING, Proc. U. S. Nat. Mus., vi, 1883, 351 (south of 24° 30', Lower California).—DREW, Auk, ii, 1885, 18 (Colorado).—MURDOCH, Auk, ii, 1885, 63 (Point Barrow, Alaska, May, Sept.); Rep. Exped. Point Barrow, 1885, 113 (breeding).

[*Pelidna al[pina] americana* COUES, Key N. Am. Birds, 2nd ed., 1884, 631.]

[*Pelidna alpina*] *β. americana* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 241.

Scheniclus alpina americana GOODE, Bull. U. S. Nat. Mus., no. 20, 1883, 341.

Scolopax sakhalina VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 359 (Sakhalin Island, Okotak Sea).

Tringa sakhalini VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 471 (cites "pl. 86 Voyage autour du Monde, par capitaine Reed Krusenstern").^a

Pelidna alpina sakhalina AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxi, July, 1904, 412; Check List, 3rd ed., 1910, 116.—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 153 (Chemulpo, Seoul, and Fusan, Korea, May 28 and Oct.).—EVERMANN, Auk, xxx, 1913, 17 (St. Paul Island, Pribilof group, Oct. 30, 1910).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 17 (Nijni Kolymsk, etc., e. Siberia); Auk, xxxiii, 1916, 45 (Sakhalin Island, May; crit.).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 386 (Providence Bay, East Cape, and Cape Serdze, n. e. Siberia, June, July).

Tringa schinzii (not of Brehm, 1822) CABOT, Naumannia, 1852, 66 (Lake Superior).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudae).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 366 (Okotak).

Pelidna pacifica COUES, Proc. Ac. Nat. Sci. Phila., 1861, 11, 189 in text (west coast of North America).

[*Pelidna pacifica* SHARPE, Hand-list, i, 1899, 165.]

Pelidna alpina pacifica STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 120 (Bering Island, etc., Kamchatka; synonymy, etc.).—THAYER and BANGS,

^a Sharpe (Cat. Birds Brit. Mus., xxiv, 1896, 634) places this as a synonym of *Gallinago gallinago*!

- Proc. New Engl. Zool. Club, v. 1914, 17 (characters).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 386 (Point Barrow, Collinson Point, and Wainwright Inlet, n. Alaska, Aug.).—OBERHOLSER, Auk, xxxiv, 1917, 200.
- Tringa alpina pacifica* AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 243a.—TURNER, Contr. N. H. Alaska, 1886, 147 (St. Michaels, etc.).—SCOTT, Auk, iii, 1886, 386 (near Tucson, Arizona, April); vi, 1889, 157 (Tarpon Springs, Florida, winter; St. Johns Pass, June); ix, 1892, 212 (Caloosahatchie River, Florida, winter).—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 100 (Port Clarence, Alaska, June 28; Hall Island, Sept. 8); Proc. U. S. Nat. Mus., x, 1887, 198, 235 (n. California, winter).—NELSON, Rep. N. H. Coll. Alaska, 1887, 110 (Point Barrow, summer resident; coast of Kotzebue Sound; etc.; habits; crit.).—PALMÉN, Vega-Exped., Fogelf., 1887, 309, part.—STEJNEGER, Proc. U. S. Nat. Mus., x, 1887, 130 (Bering Island); Auk, v, 1888, 307, in text (crit.).—SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxv, 427.—COOKE, Bird Migr. Miss. Val., 1888, 93.—CLARKE (W. E.), Auk, vii, 1890, 321 (Fort Churchill, Keewatin; crit.).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 501 (Manitoba, in migration).—LAWRENCE (R. H.), Auk, ix, 1892, 43 (Grays Harbor, Washington, May).—ELLIOT, N. Am. Shore Birds, 1895, 92, pl. 25.
- Tringa pacifica* TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 163 (coast region of n. California).
- Tringa subarquata* (not *Scolopax subarquata* GÜLDENSTÄDT) SWINHOE, Ibis, 1861, 342 (Takow to Peking, China); Proc. Zool. Soc. Lond., 1862, 319 (Tientsin, China).
- Tringa chinensis* (not of Gray ^a) SWINHOE, Ibis, 1862, 255 (Foochow, China; crit.).
- Tringa cinclus* var. *chinensis* (not of Taczanowski) SWINHOE, Proc. Zool. Soc. Lond., 1871, 408 (China).
- Tringa alpina* v. *chinensis* TACZANOWSKI, Journ. für Orn., 1873, 103 (e. Siberia).
- Tringa damacensis* (not *Totanus damacensis* Horsfield) SWINHOE, Ibis, 1876, 334 (Yedo, Japan; crit.).

Genus PISOBIA Billberg.

- Pisobia* ^b BILLBERG, Synop. Faunæ Scand., i, pars ii, 1828, tab. A, and p. 136. (Type, as designated by American Ornithologists' Union Committee, 1908. *Tringa minuta* Leisler.)
- Leimonites* (not of Vieillot, 1816 ^c) KAUP, Natürl. Syst., 1829, 37. (Type, *Tringa temminckii* Leisler.)
- Limonites* (emendation) SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 537.
- Actodromas* KAUP, Natürl. Syst., 1829, 55. (Type, *Tringa minuta* Leisler.)
- Delopygia* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 190. (Type, *Tringa bonapartii* Schlegel.)
- Heteropygia* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 191. (Type, *Tringa bonapartii* Schlegel.)
- Heteropygea* (emendation) GIEBEL, Thesaurus Orn., ii, 1874, 329.
- Limnocinclus* GOULD, Handb. Birds Australia, ii, 1865, 254. (Type, *Totanus acuminatus* Horsfield; = *Tringa aurita* Latham?)

^a = *Erolia ferruginea*.^b "Πισος, locus humidus, Suo vivo derivatum est." (Billberg.)^c Not given as a generic name by Vieillot but for a so-called family comprising the genera *Sturnella*, *Sturnus*, and *Buphaga*. Derivation, according to Vieillot, "Λεμονίτης pratensis."

Neopisobia^a MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 245, in text.
(Type, by original designation, *Totanus damacensis* Horsfield = *Tringa subminuta* Middendorff.)

Medium-sized to very small Erolinæ (wing 82-146 mm.) with completely cleft anterior toes; tail two-fifths as long as wing, with middle pair of rectrices projecting beyond the rest and more or less contracted (sometimes subacuminate) terminally, and exposed culmen not longer (usually shorter) than tarsus, the latter usually equal to or even longer than middle toe with claw, but sometimes shorter.

Bill straight, little if any longer than head (sometimes shorter), the exposed culmen never longer (usually shorter) than tarsus, tapering distally in lateral profile, its edges more nearly parallel in vertical profile; nasal groove broad, at least basally, extending nearly to base of the faintly decurved tip of maxilla; mandible with a narrower and much less distinct lateral groove; nostril sub-basal, small, linear; malar antia decidedly anterior to edge of loreal feathering, the mental antia still farther forward (about on same vertical line with middle of nostril). Wing rather long, pointed, the longest primary (outermost^b) exceeding distal secondaries by half the length of wing or slightly more, the acuminate or narrowed^c longest tertials not extending to tips of longest primaries. Tail more than two-fifths as long as wing, nearly truncate but inclining to slightly rounded or slightly emarginate (*P. fuscicollis* and *P. bairdi*), the middle pair of rectrices contracted terminally (acuminate in *P. maculata* and *P. acuminata*) and projecting, more or less, beyond the rest; rectrices 12. Tarsus not shorter (usually longer) than middle toe with claw, except in *P. minutilla* and *P. subminuta* (especially the latter), usually a little less than one-fifth but sometimes (*P. acuminata*) more than one-fourth as long as wing, continuously scutellate anteriorly and posteriorly; bare portion of tibia about as long as first two phalanges of middle toe, or a little shorter, scutellate before and behind; lateral toes decidedly shorter than middle toe, the inner decidedly shorter than the outer; no trace of web in either interdigital space.

Coloration.—In summer above brownish gray or grayish brown, sometimes suffused or intermixed with rusty, spotted or broadly striped with black; beneath white, except chest and foreneck which are pale buffy grayish or dull buffy more or less distinctly streaked

^a Néos, new + *Pisobia*. (Mathews.)

^b Sometimes (in *P. minutilla* and *P. subminuta*) the "second" primary is nearly if not quite as long as the outermost.

^c In the smaller species (*P. minutilla*, *P. subminuta*, *P. temmincki*, *P. minuta*, and *P. ruficollis*) the elongated tertials are not acuminate, as in the larger species, but have more or less broadly rounded tips, and are relatively longer, extending much more nearly to tips of the longest primaries than in the larger species.

with dusky (uniform cinnamon-rufous in *P. ruficollis*). In winter, upper parts usually nearly plain grayish brown or brownish gray.

Range.—Northern Hemisphere, breeding northward; migrating far southward. (Nine or ten species.)

KEY TO THE SPECIES OF *PISOBIA*.

- a. Larger (wing 114–146, tail 48–65 mm.).
 - b. Median upper tail-coverts pointed at tip (subacuminate), the tail slightly rounded; tarsus not less than 24 (24–30), middle toe not less than 21 (21–25 mm.); rump and median upper tail-coverts sooty blackish.
 - c. Shaft of outermost primary wholly white, those of other primaries white at extreme (concealed) base only; foreneck and chest pale grayish brown conspicuously streaked with dusky brown. (North America, breeding northward; South America during migration.) *Pisobia maculata* (p. 269).
 - cc. Shaft of outermost primary only partly white, those of other primaries white subterminally but not basally; foreneck and chest whitish or pale rusty, spotted with dusky. (Western Alaska and northeastern Asia, migrating to Australia, New Zealand, and Malay Archipelago.)
 - Pisobia acuminata* (p. 276).
- bb. Median upper tail-coverts not pointed, the tail double-emarginate; tarsus not more than 24 (20–24), middle toe not more than 21 (16–21 mm.), except in *P. cooperi*; rump and median upper tail-coverts not sooty blackish.
- c. Median upper tail-coverts dark grayish brown, like rump; scapulars variegated with pale grayish buff in summer. (North America, breeding northward; South America in migration.) *Pisobia bairdi* (p. 279).
- cc. Median (as well as lateral) upper tail-coverts white; scapulars variegated with grayish brown and cinnamon in summer.
 - d. Smaller (wing 116.5–124, tail 50–57, exposed culmen 21–26, tarsus 22–24). (North America, breeding northward; South America during migration.)
 - Pisobia fuscicollis* (p. 284).
 - dd. Larger (wing 146, tail 57, exposed culmen 31, tarsus 29). (Long Island, New York; only one specimen known.) *Pisobia cooperi* (p. 289).
- aa. Smaller (wing 82–104, tail 35–47.5 mm.).
 - b. Middle toe, with claw, shorter than tarsus, little if any longer than exposed culmen, the latter less than one-fifth as long as wing.
 - c. Tail double-emarginate; all the primaries with shafts partly white; lateral rectrices all pale brownish gray; summer adults strongly rufescent above; legs and feet blackish.
 - d. Bill more slender; summer adults with throat and foreneck white, the latter flecked with grayish brown; winter plumage darker above. (Northern Europe and Asia, migrating to Africa, India, and Ceylon.)

Pisobia minuta (extralimital).^a

^a *Tringa minuta* Leisler, Nachtr. Bechst. Naturg. Deutschl., i, 1812, 74 (near Hanau on the Main); Naumann, Vög. Deutschl., vii, 1838, 391; Yarrell, Hist. Brit. Birds, ed. 2, iii, 1845, 66; ed. 3, 1856, 70; Macgillivray, Hist. Brit. Birds, iv, 1852, 227; Dresser, Birds Europe, viii, 1871, 29, pl. 549, fig. 2, pl. 551, fig. 1.—*Pelidna minuta* Stephens, in Shaw's Gen. Zool., xii, pt. i, 1824, 105.—*Actodromas minuta* Kaup, Natürl. Syst., 1829, 55; Gould, Birds Great Brit., iv, 1870, pl. 72 and text.—*Calidris minuta* Cuvier, Règne Anim., ed. 2, i, 1829, 526.—*Schenichus minuta* Gray, List Birds Brit. Mus., iii, 1844, 106.—*Limonites minuta* Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 538.—[*Pisobia*] *minuta* Lönnerberg, Journ. für Orn., Oct., 1906, 533.—(?) *Tringa minuta orientalis* Taczanowski, Mém. Acad. Imp. St. Petersb., (7), xxxix, 1893, 918.

- dd. Bill stouter, especially toward base; summer adults with throat and fore-neck plain cinnamon-rufous; winter plumage lighter above. (Eastern Siberia to Commander Islands, migrating southward to Malay Archipelago and Australia; casual or occasional in Alaska.). *Pisobia ruficollis* (p. 290).
- cc. Tail graduated (slightly); only the outermost primary with shaft white; outermost rectrices white; summer adult not at all rufescent above; legs and feet grayish or olivaceous. (Northern Europe and Asia, migrating to Africa, India, Ceylon, etc.).....*Pisobia temminckii* (extralimital).^a
- bb. Middle toe, with claw, longer than tarsus, decidedly longer than exposed culmen, the latter more than one-fifth as long as wing.
- c. Middle toe, with claw, less than one-fourth as long as wing (middle toe, without claw, 15-17); all the primaries with shafts at least partly white. (North America, breeding northward; South America in migration.)
- Pisobia minutilla* (p. 294).
- cc. Middle toe, with claw, more than one-fourth as long as wing (middle toe, without claw, 19-21.5); only the outermost primary with shaft white. (Northeastern Asia, migrating to Malay Archipelago, Australia, etc.; casual or occasional in western Alaska.).....*Pisobia subminuta* (p. 300).

PISOBIA MACULATA (Vieillot).

PECTORAL SANDPIPER.

Adults in summer.—General color of upper parts light drab, streaked and spotted with black, the black predominating on scapulars and interscapulars, in the form of central spots, and on the pileum the black streaks, rather broader than the buffy drab ones; brown edgings or margins of scapulars, especially the posterior ones, more or less tinged or intermixed with cinnamon or rusty; wing-coverts grayish brown or drab distinctly, but not sharply, margined with paler, the greater coverts narrowly tipped with dull buffy whitish; secondaries grayish brown, narrowly edged with paler and margined terminally with dull buffy white; primary coverts and primaries darker grayish brown, the latter indistinctly and very narrowly edged with paler, the shaft of outermost quill entirely yellowish white, the shafts of other quills light brown, becoming paler (brownish white) subterminally; rump and median upper tail-coverts sooty black, indistinctly margined with brownish, the lateral upper tail-coverts white with a median cuneate or sagittate streak of dusky, mostly on outer web; middle pair of

^a *Tringa temminckii* Leisler, Nachtr. Bechst. Naturg. Deutschl., ii, 1812, 78 (near Hanau on the Main); Naumann, Vög. Deutschl., vii, 1836, 483; xiii, 1847, 234; Yarrell, Hist. Brit. Birds, ed. 2, iii, 1845, 70; ed. 3, 1856, 74; Macgillivray, Hist. Brit. Birds, iv, 1852, 232.—*Tringa temminckii* Dresser, Birds Europe, viii, 1871, 45, pl. 549, fig. 1; pl. 551, fig. 2.—*Pelidna temminckii* Stephens, in Shaw's Gen. Zool., xii, pt. i, 1824, 103.—*Calidris temminckii* Cuvier, Règne Anim., ed. 2, i, 1829, 526.—*Limoniites temminckii* Kaup, Natürl. Syst., 1829, 37; Gould, Birds Great Brit., iv, 1873, pl. 73 and text.—*Limoniites temminckii* Giglioli, Ibis, 1865, 61.—*Limoniites temminckii* Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 555.—[*Pisobia*] *temminckii* Lönnberg, Journ. für Orn., Oct., 1906, 533.—*Scheniulus temminckii* Gray, List Birds Brit. Mus., Grallæ, 1844, 106.—[*Actodromas*] *temminckii* Bonaparte, Compt. Rend., xliii, 1856, 596.—*Pelidna gracilis* Brehm, Vogelf., 1855, 318.

rectrices dusky, narrowly edged with pale grayish brown, the rest of tail light grayish brown or pale drab, the rectrices narrowly edged with paler; a superciliary stripe of dull white, narrowly streaked, especially posteriorly, with dusky; an indistinct loreal stripe of light grayish brown, minutely flecked with dusky, the upper portion of auricular region light brown narrowly streaked with dusky; rest of head, neck (all round), and chest dull brownish white (inclining to pale buffy grayish brown on chest) distinctly streaked with dusky, the chin and upper throat, however, immaculate white or buffy white; rest of under parts immaculate white, or buffy white, the sides and flanks, however, usually with a few narrow shaft streaks of dusky; axillars and under wing coverts, except near edge of wing (where spotted with grayish brown) immaculate white; bill blackish terminally, more brownish basally (where dull greenish yellow in life); iris brown; legs and feet dusky brown (dull greenish yellow or yellowish green in life).

Winter plumage.—Similar to the summer plumage but the cinnamon or rusty tinge to scapulars, etc., absent and the black and dusky markings less sharply defined.

Young.—Similar to the summer adult but scapulars and outermost interscapulars margined terminally on outer webs with white, and the chest, etc., more buffy and more narrowly or less sharply streaked.

Downy young.—Head light grayish buff (between pinkish buff and vinaceous-buff), fading into buffy whitish on chin and throat; a rather broad median frontal streak of black, a narrow loreal line of the same (throwing off a short vertical branch toward anterior angle of eye and a narrow branch beneath suborbital region), a still narrower postocular streak, and a small longitudinal spot near rictus; crown and occiput marbled with black and dark chestnut or burnt umber, and with a few mottlings of buffy, this dark-colored area margined laterally by a broad but irregular stripe of immaculate pale grayish buff, separated from a broad superciliary stripe of the same by a narrower irregular stripe of blackish brown; hindneck mottled or marbled with pale grayish brown, and dusky; general color of back and rump russet, intermixed with black and dotted or spangled with pale grayish buffy; wing mostly immaculate russet; under parts dull buffy white deepening into brownish buff on chest and strongly tinged on posterior portion with the same.

Adult male.—Wing, 137–146 (139.8); tail, 59–65 (62.4); exposed culmen, 26–29.5 (28.4); tarsus, 27–30 (27.7); middle toe, 21.5–24.5 (23.6).^a

^a Eight specimens.

Adult female.—Wing, 119.5–130 (125.8); tail, 51–60 (55.3); exposed culmen, 24–29 (25.8); tarsus, 24–26.5 (25.8); middle toe, 21–26.5 (22.5).^a

Breeding on or near Arctic coast of North America, from north-eastern Mackenzie to mouth of Yukon River, Alaska, and north-eastern Siberia (Nijni Kolymsk, etc.); migrating southward over whole of North and Middle America (including West Indies and Bermudas) and South America as far as Chile (Huasco, Tarapacá; Sacaya; Rio Pilmaiguen; Cavanche; Antofagasta), Argentina (Ranchos; Estancia Espartilla; Rio Pilcomayo; Los Inglesas, Ajo; Moreno; Barracas al Sud; Tucumán; Entre Rios; Buenos Aires), Uruguay (Concepción), and Paraguay (Medano; upper Rio Paraná); occasional in Aleutian Islands (Nearer Island and Unalaska) and Greenland; casual in England (16 records); accidental in Hawaiian Islands (Kashualu, Kau, 2 specs., Oct. 14, 1900).

Tringa maculata VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 465 (Antilles and southern United States).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 720.—BAIRD, Cat. N. Am. Birds, 1859, no. 531; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Charco Escondido, Tamaulipas).—SCLATER and SALVIN, Ibis, 1859, 229 (Dueñas, Guatemala); Proc. Zool. Soc. Lond., 1866, 199 (Rio Ucayali, e. Peru); 1867, 754 (Xeberos, e. Peru); 1869, 598 (Cosnipata, e. Peru); 1873, 309 (upper Rio Ucayali, Xeberos, and Chamicuros, e. Peru), 455 (Neotropical localities); 1874, 678 (Paukatambo, Peru); 1879, 641 (Tilotilo, Bolivia).—NEWTON (A. and E.), Ibis, 1859, 258 (St. Croix).—NEWTON (A.), Blasius List Birds Europe, 1862, 18.—GRAY, List Brit. Birds, 1863, 166.—BLAKISTON, Ibis, 1863, 132 (Mackenzie River).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 39.—LÉOTAUD, Ois. Trinidad, 1866, 474.—DRESSER, Ibis, 1866, 36 (s. Texas); Birds Europe, viii, 1878, 11, pl. 546.—BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 69 (Bahamas).—HOFFMAN, Am. Nat., ii, 1868, 217 (Lehigh Co., Penn.; breeding).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—SUNDEVALL, Oefv. Vet.-Ak. Förh. Stockholm, 1869, 587 (St. Bartholomew).—PELZEELN,

^a Fifteen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Pennsylvania.....	146	64.5	28	29	24.5
Two adult males from Illinois.....	139.2	62	29.2	27.5	24
Five adult males from Alaska.....	138.8	62.2	28.2	27.6	23.3
FEMALES.					
One adult female from Maryland.....	127	55	26	26	22
Two adult females from Illinois.....	126.5	58	26.7	25.7	22.5
One adult female from North Dakota.....	124	55	28	26	24
One adult female from St. Paul Island, Bering Sea.....	128	57	28.5	26.5	22
One adult female from St. Lawrence Island, Bering Sea.....	127	57	26.5	26	23.5
Nine adult females from mainland of Alaska.....	125.4	54.4	26.2	25.6	22.2

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- Tringa fuscicollis* (not of Vieillot) TSCHUDI, Fauna Peruana, Aves, 1845-46, 299 (coast of Peru, up to 12,000 feet).
- Tringa dominicensis* DEGLAND, Orn. Eur., ii, 1849, 232 (ex *Tringa cinclus dominicensis* Brisson, Orn., v, 1760, 219, pl. 24, fig. 1).
- (?) [*Pelidna*] *campestris* (not *Tringa campestris* Vieillot?^a) LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92 (Brazil; Chile).
- Tringa bairdi* (not of Coues) APLIN, Ibis, 1894, 209 (Uruguay).

^a Not with certainty identifiable? Is placed, with a query, as a synonym of *Numenius borealis* by Sharpe, in Cat. Bird Brit. Mus., xxiv, 369.

PISOBIA ACUMINATA (Horsfield).

SHARP-TAILED SANDPIPER.

Adults in summer (sexes alike).—Pileum rufescent brown (sayal brown or mikado brown) broadly streaked with black; nape and hind-neck buffy, rather broadly streaked with dusky; scapulars and interscapulars dull black or brownish black medially, broadly edged with wood brown, some of the feathers (especially posterior scapulars) with the broad edgings more rufescent and passing into whitish terminally; wing-coverts deep grayish brown with much paler margins and with indistinct shaft-streaks of dusky, the greater coverts narrowly tipped, or terminally margined, with dull white; secondaries deep grayish brown narrowly edged with grayish white, the proximal ones (next to tertials) broadly edged distally with white; tertials dusky margined with pale wood brown and brownish white; primary coverts dusky, the proximal ones tipped with white; primaries deep grayish brown, narrowly and rather indistinctly edged with paler, their shafts light grayish brown passing into white post-medially or subterminally; rump and upper tail-coverts dark sooty brown or blackish brown, the feathers more or less distinctly margined (narrowly) with wood brownish, the middle pair of rectrices similar but margined with more rufescent brown or cinnamonaceous; rest of tail grayish brown or brownish gray, the rectrices narrowly margined terminally with white; side of head, including superciliary stripe, white streaked with dusky, the sides of neck similar but with heavier streaks; auricular region pale brownish, narrowly streaked with dusky; chin and throat white, the latter with small spots or flecks of dusky; foreneck, chest, and sides of breast pale cinnamon-buff or vinaceous-buff, irregularly spotted, barred, and streaked with dusky, the feathers tipped with whitish; rest of under parts white, the upper breast, sides, and flanks with V-shaped markings of grayish brown, the under tail-coverts with central sagittate spots or streaks of dusky; axillars and most of under wing-coverts immaculate white; bill blackish terminally, brownish (yellowish in life?) basally; iris brown; legs and feet dusky (greenish yellow in life?).

Winter plumage.—Similar to summer adults but less rufescent above (the general color grayish brown streaked and striped with blackish, the pileum, however, distinctly rufescent or cinnamonaceous), the chest pale grayish buff, indistinctly streaked (not spotted) with dusky.

Young.—Pileum bright rusty brown (mikado brown or sayal brown) sharply streaked with black and bounded laterally by a broad superciliary stripé of white finely streaked with dusky; scapulars and interscapulars rusty ochraceous or ochraceous-cinnamon, black medially or centrally, the outermost series of each margined terminally with white; upper tail-coverts and feathers of rump margined terminally with rusty; foreneck, chest, upper breast, and anterior portion

of sides rusty buff or cinnamon-buff narrowly streaked, anteriorly and laterally, with dusky; otherwise essentially like adults.

Adult male.—Wing, 125–138.5 (131.7); tail, 52–60 (56); exposed culmen, 24–28.5 (26.2); tarsus, 28–29 (28.5); middle toe, 24–25 (24.5).^a

Adult female.—Wing, 120–126 (123); tail, 50–52.5 (51.4); exposed culmen, 23.5–25 (24.1); tarsus, 27–28 (27.6); middle toe, 23–24 (23.7).^b

Breeding on Chukchi Peninsula, northeastern Siberia; migrating southward, through eastern Siberia, Kamchatka, Korea, China, Japan, etc., to Caroline Islands, Bismarck Archipelago, Tonga Islands, New Guinea, Australia, and New Zealand; in autumn also migrating eastward to western Alaska (Kotzebue and Norton sounds, Pribilof Islands, and Aleutian Islands)^c and British Columbia (Comox, Oct. 4, 1903; Masset, Queen Charlotte Islands); casual in Hawaiian Islands (near Honolulu, 1 spec.; Maui, 1 spec.; Laysan, 1 spec.); accidental in England (coast of Norfolk, 2 specs.).

(?) [*Tringa*] *aurita* LATHAM, Index Orn., Suppl., 1801, p. lxvi (New South Wales; based on *Brown-eared Sandpiper* Latham, Gen. Synop. Birds, Suppl., ii, 1801, 314).^d

(?) *Tringa aurita* VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 470.

Pisobia aurita AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 366; Check List, 3rd ed., 1910, 113.

Totanus acuminatus HORSFIELD, Trans. Linn. Soc., xiii, 1820, 192 (Java).

Tringa acuminata SWINHOE, Proc. Zool. Soc. Lond., 1863, 316 (Pekin and Amoy, China); 1871, 409 (China, in migration); Ibis, 1863, 412 (Formosa); 1873, 424 (Shanghai, China); 1875, 455 (Hakodate, Japan).—SCHLEGEL, Mus. Pays-Bas,

^a Two specimens.

^b Four specimens.

Most of the specimens examined (including all those from Alaska) are in juvenile plumage, birds in summer plumage being relatively rare in collections. There is a remarkable difference in size between two adult males from Australia and New Zealand, respectively, and I suspect there may be two forms, the respective breeding ranges of which remain to be determined. Their measurements are as follows:

Locality..	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Sydney, Australia (Nov. 16).....	125	52	24	28	24
One adult male from Canterbury, New Zealand (date not re- corded).....	138.5	60	28.5	28	25

^c All Alaskan specimens examined are young birds of the year.

^d Latham's Brown-eared Sandpiper was based on a "Watling" or "Lambert" drawing (no. 244) now in the British Museum, which Sharpe (Hist. Coll. Brit. Mus., Birds, 1906, 147) identified as *Tringa acuminata* Horsfield. Mathews (Novit. Zool., xviii, 1911, 7) has since examined this drawing and finds it a "good figure of Linné's *hypoleucos*" (i. e., *Actitis hypoleucos*).

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- [*Tringa*] *acuminata* RIDGWAY, Man. N. Am. Birds, 1887, 155.
- [*Tringa*] *acuminata* GRAY, Hand-list, iii, 1871, 49, no. 10304.—BRYAN, Key Birds Hawaiian Group, 1901, 27 (Oahu; Maui; Laysan).
- Limnocinclus acuminatus* GOULD, Handb. Birds Australia, ii, 1865, 254.—RAMSAY, Proc. Linn. Soc. N. S. W., i, 1877, 375 (New Ireland); Proc. Zool. Soc. Lond., 1877, 338 (Queensland).—TWEEDDALE, Proc. Zool. Soc. Lond., 1877, 834 (Butuan, Philippines, May).—MATHEWS, Birds, Australia, iii, pt. 3, 1913, 255.—OBERHOLSER, Auk, xxxiv, 1917, 200.
- [*Limnocinclus*] *acuminatus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 329 (Australia).
- Pelidna acuminata* SALVADORI, Ucc. Borneo, 1874, 328.
- Tringa* (*Limnocinclus*) *acuminata* CASTELNAU and RAMSAY, Proc. Linn. Soc. N. S. W., i, 1877, 384 (Norman River, Gulf of Carpentaria, Australia).—RAMSAY, Proc. Linn. Soc. N. S. W., ii, 1878, 198; Tab. List Austral. Birds, 1888, 20.
- Actodromas acuminata* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199, 222. Nom. N. Am. Birds, 1881, no. 533.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 164 (Port Clarence, Alaska).—COUES, Check List, 2d ed., 1882, no. 619.—NELSON, Cruise 'Corwin' in 1881 (1883), 86.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 235.—BROOKS, Auk, xxi, 1904, 290 (Comox, Brit. Columbia, Oct. 4, 1903).—KERMODE, Prov. Mus. Victoria, 1909, 36 (Masset, Queen Charlotte Islands).

- A[ctodromas] acuminata* COUES, Key N. Am. Birds, 2d ed., 1884, 628.
Actodromas acuminatus STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 115 (Bering Island, Kamchatka; synonymy, measurements, etc.); Proc. U. S. Nat. Mus., x, 1887, 130 (Commander Islands).
Tringa (Actodromas) acuminata PALMÉN, 'Vega'-Exped., 1887, 323 (Cape Wankarem, n. e. Siberia, Aug.).
Heteropygia acuminata SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 566, 767.—HARTERT, Novit. Zool., vi, 1899, 215, 216 (St. Aignan, Louisiade Archipelago); vii, 1900, 8 (Ruk Island, centr. Carolines).
[Heteropygia] acuminata SHARPE, Hand-list, i, 1899, 163.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 72.
Heteropygia acuminatus HARTERT, Novit. Zool., xii, 1905, 202 (Alligator River, n. w. Australia).
Pisobia acuminata THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 15 (Nijni Kolymak, etc., n. e. Siberia, May, June).
Erolia acuminata MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, pl. [161] facing p. 255.
Tringa australis (not of Gmelin^a) JARDINE and SELBY, Illustr. Orn., ii, 1836, pl. 91.
Schenichus australis GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 105 (South Australia; Rottness Island; West Australia; Port Essington).—GOULD, Birds Australia, vi, 1847, pl. 30 and text; Introd. Birds Australia, 1848, 100.—STURT, Exp. Centr. Austral., ii, 1849, App., 50.—REICHENBACH, Vög. Neuholl., 1850, 22; Grallatores, 1851, pl. 290, figs. 2378, 2379.—MACGILLIVRAY, Narr. Voy. 'Rattlesnake,' ii, 1852, 358.—RAMSAY, Proc. Linn. Soc. N. S. W., iv, 1880, 101 (South Cape; Louisiades).
? [*Pelidna*] *australis* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92 (Australia).
[Actiturus] australis BONAPARTE, Compt. Rend., xliii, 1856, 597.
Actodromas australis RIDGWAY, Proc. U. S. Nat. Mus., v, 1882, 331.
Tringa subarquata (not *Scolopax subarquata* GÜLDENSTÄDT) MÜLLER (S.), Verh. Land-en Volkenk., 1839-44, 110 (Amboina).
Tringa rufescens (not of Bechstein, 1809) MIDDENDORFF, Sibir. Reis., Vög., 1851, 221 (s. coast Sea of Okotsk, June).
Tringa, sp. SWINHOE, Ibis, 1860, 359 (Amoy); 1861, 342 (between Takow and Peking).
Tringa pectoralis (not of Say) SWINHOE, Ibis, 1863, 97 (n. China).
Tringa crassirostris (not of Temminck and Schlegel) TACZANOWSKI, Journ. für Orn., 1873, 103.

PISOBIA BAIRDI (Coues).

BAIRD'S SANDPIPER.

Adults in summer (sexes alike).—General color of upper parts pale grayish buff, the pileum broadly streaked with sooty black, the hind-neck more narrowly streaked with the same, the interscapulars broadly black medially, the scapulars with large irregular spots of black; wing-coverts light grayish brown (nearest pale drab-gray), indistinctly margined with paler and with narrow and indistinct dusky shaft-streaks—the more anterior lesser coverts darker and more uniform grayish brown; greater coverts passing into dull buffy whitish at tips; secondaries darker grayish brown or brownish gray, narrowly edged with paler, the edgings passing terminally into white (broadly

^a = *Canutus canutus*.

on proximal secondaries); tertials deep grayish brown passing through paler grayish brown into brownish white on edges of outer webs; primary coverts dusky, narrowly margined terminally with pale gray or whitish (more broadly on proximal coverts); primaries grayish brown (darker on distal quills), very narrowly edged with pale brownish gray or grayish white, the shafts of all pale grayish brown basally and terminally, whitish subterminally (more distinctly and extensively so on outermost quill); rump and upper tail-coverts sooty grayish brown, indistinctly or very narrowly margined with pale brownish buffy, the lateral upper tail-coverts dull whitish, each with a V-shaped mark of dusky; middle pair of rectrices dusky grayish brown (like upper coverts), narrowly margined with dull buffy whitish, the remaining rectrices paler (the outermost very pale) grayish brown, distinctly but narrowly margined with whitish; sides of head, including superciliary region, sides of neck, foreneck, and chest dull buffy whitish (the chest more decidedly buffy, sometimes pale grayish buff or between tiller buff and pale olive-buff) narrowly streaked with dusky, the superciliary region, however, with very few and minute streaks or nearly immaculate anteriorly; chin, throat and under parts (posterior to chest) immaculate white; axillars and most of under wing-covers immaculate white; bill black, more brownish basally; iris brown; legs and feet blackish.

Winter plumage.—Above nearly uniform buffy brownish or drab, the feathers with dusky shaft-streaks; under parts duller or more brownish white, the chest, sides of neck, and sides of breast strongly tinged with dull brownish buffy but not distinctly streaked; otherwise essentially as in summer.

Young.—Above buffy drab, the scapulars and interscapulars darker centrally and margined terminally with white or buffy white, the pileum streaked with dusky; otherwise much like the winter plumage, but chest streaked with dusky.

Downy young.—Forehead and sides of head very pale grayish buffy, relieved by a median frontal streak of brownish black (which does not reach bill but is confluent posteriorly with blackish of crown), a short, narrow blackish streak on anterior half of lores (not reaching to bill, however), a less distinct rictal streak, a dusky brown subauricular spot, and a narrow postocular streak; anterior portion of crown brownish black, the posterior portion and occiput mixed blackish and brown, the occiput dotted or flecked with pale grayish buffy; hindneck mixed grayish dusky and pale buffy grayish; back, wings, and rump mixed dusky and snuff brown, dotted or spangled, especially on rump, with dull buffy whitish; under parts dull white, the chest shaded with pale brownish gray.

Adult male.—Wing, 114–122 (118.7); tail, 48–53 (51.1); exposed culmen, 20.5–23 (21.7); tarsus, 20–23 (21.1); middle toe, 16–18 (17.2).^a

Adult female.—Wing, 119–126 (122.3); tail, 49–54 (51.7); exposed culmen, 21.5–24 (22.8); tarsus, 20–23 (21.4); middle toe, 16.5–19 (17.4).^a

Breeding on or near Arctic coast of North America, from Point Barrow, Alaska, to northern Keewatin; migrating southward, chiefly between Rocky Mountains and Mississippi River, through Mexico, Central America, and South America as far as Chile (Santiago; Concepción; Huasco; Sacaya; Caucosa; Lake Huasco; Cueva Negra, Tarapacá), Argentina (Córdoba; Tucumán; Misiones; Buenos Aires; Conchitas; Mendoza), Uruguay (Rio Sauce), and Paraguay; occurs frequently but irregularly, during autumn migration, along Atlantic coast from Maine southward, and along Pacific coast from Norton Sound, Alaska, southward; casual in Galápagos Archipelago (Barrington Island) and on Cocos Island; accidental in England and in southwestern Africa (Walvisch Bay, Damara Land, Oct. 24, 1863); occasional in northeastern Siberia (Arakamachachi Island, near St. Lawrence Bay).

(?) *Tringa melanotos* VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 462 (Paraguay; based on *Chorlito lomo negro* Azara, Apunt. Parag., iii, 1805, 317).—HARTLAUB, Index Azara's Apunt., 1847, 25.—CABANIS, Journ. für Orn., 1878, 199 (Argentina).

(?) *[Tringa] melanotos* GRAY, Gen. Birds, iii, 1845, 579.

[*Tringa*] *melanotis* PELZELN, Orn. Bras., 1870, 457.

Schenicus schinzii (not *Tringa schinzii* Brehm) GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 105 (Chile).

Tringa schinzii WOODHOUSE, in Sitgreaves' Rep. Expl. Zuffi and Col. R., 1853, 100, excl. syn. (Indian Territory; New Mexico).

(?) [*Pelidna*] *dorsalis* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92 (*nomen nudum*; Tropical America).

Tringa dorsalis BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 374; Reise La Plata Staaten, ii, 1861, 503 (Mendoza, Argentina).

(?) *Pelidna pectoralis* (not *Tringa pectoralis* Say) CASSIN, in Rep. U. S. Astron. Exped. (Gilliss), ii (Birds), 1855, 195 (Chile).

Tringa bonapartii (not of Schlegel) CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 722, part (Omaha; Fort Kearney; Yellowstone River).—BAIRD, Cat. N. Am. Birds, 1859, no. 533, part.—HAYDEN, Trans. Am. Philos. Soc., xii, 1862, 174 ("throughout the watercourses of the Northwest").

Actodromas bonapartii HENRY, Proc. Ac. Nat. Sci. Phila., 1859, 108 (New Mexico).

Actodromas bairdii COUES, Proc. Ac. Nat. Sci. Phila., xiii, 1861, 194 (Fort Resolution, Great Slave Lake, Mackenzie; coll. U. S. Nat. Mus.); 1866, 97 (Fort Whipple, Arizona).—SCLATER, Proc. Zool. Soc. Lond., 1862, 369 (Mexico).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292 (Sitka, Kodiak, Amak Island, and Yukon River, Alaska).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 182 (western edge of Great Plains, Aug.).—BREWSTER, Am. Nat., vi, 1872, 306 (Long Island in Boston Harbor, Aug. 27, 1870).—BREWSTER, Proc.

^a Nine specimens.

- Bost. Soc. N. H., xvii, 1875, 446 (Massachusetts).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 537).—LAWRENCE (N. T.), Auk, ii, 1885, 273 (Far Rockaway, Long Island, Aug., 1882).—HENSHAW, Auk, ii, 1885, 384 (Locust Grove, Lewis Co., New York, Aug. 18, 1885).—FLEMING, Auk, xxiii, 1906, 449 (Toronto, Ontario, regular fall migrant).—TAVERNER and SWALES, Wilson Bull., no. 60, 1907, 85 (Point Pelee, Ontario, Aug., Sept.).—BEYER, ALLISON, and KOPMAN, Auk, xxv, 1908, 178 (Louisiana, rare migrant).—ALLEN (G. M.), Auk, xxv, 1908, 234 (Newburyport, Massachusetts, Sept. 6, 1906).—WOOD (J. C.), Wilson Bull., xxi, 1909, 107 (Wayne Co., Michigan, rather common in autumn of 1908).
- Actodromas bairdi* NEWTON, Proc. Zool. Soc. Lond., 1871, 57 (descr. eggs).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 537.—COUES, Check List, 2nd ed., 1882, no. 615.—BROWN (N. C.), Bull. Nutt. Orn. Club, viii, 1883, 343 (near Scarborough, Maine, Sept., 11, 1883).—NELSON, Cruise 'Corwin' in 1881 (1883), 88 (Arctic coast, Point Hope to Point Barrow; Arakamachachi Island, near St. Lawrence Bay, Siberia; shores Norton Sound, rare).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 230.—DREW, Auk, ii, 1885, 18 (Colorado, 7,000–13,000 ft. alt.).—MURDOCH, Auk, ii, 1885, 63 (Point Barrow, Alaska, May 29, to Aug. 12); Exped. Point Barrow, 1885, 112 (Point Barrow, breeding).
- A[ctodromas] bairdi* RIDGWAY, Bull. Essex Inst., vi, 1874, 23 (lower Humboldt Valley, Nevada, Aug.).—COUES, Key N. Am. Birds, 2nd ed., 1884, 625.
- Actodromas bairdii* STEVENSON, Rep. U. S. Geol. Surv. Terr., 1871, 466 (North Platte and Little Sandy, Wyoming).—MERRIAM, Rep. U. S. Geol. Surv., 1873, 700 (lower Geyser Basin, Wyoming).—RIDGWAY, Bull. Essex Inst., vi, 1874, 39 (Nevada).—HENSHAW, Zool. Expl. West of 100th Merid., 1875, 455 (Crittenden and Camp Apache, Arizona, Aug., Sept.; La Piedra, Colorado, Sept.).
- Actodromus bairdii* MERRIAM, Sixth An. Rep. U. S. Geol. Surv., 1872 (1873), 713 (Fire-Hole Basin, Wyoming).
- Tringa bairdii* COUES, Check List, 1873, no. 419; Birds Northwest, 1874, 484.—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 351 (Nevada); Rep. N. H. Coll. Alaska, 1887, 109 (St. Michaels, Alaska, 1 spec., Aug.).—ALLEN, Bull. Mus. Comp. Zool., iii, 1876, 357 (Moho, Lake Titicaca, common).—LANGDON, Birds Cincinnati, 1877, 14.—BREWSTER, Bull. Nutt. Orn. Club, i, 1876, 19 (Upton, Oxford Co., Maine, Sept. 1, 1875).—BROWN (N. C.), Bull. Nutt. Orn. Club, ii, 1877, 28 (Scarborough Beach, Maine, Sept. 5, 1875); Auk, xiii, 1896, 80 (near Portland, Maine, 3 specs., Sept., 1895).—LAWRENCE (N. T.), Forest and Stream, x, 1878, 235 (Rockaway, Long Island, 4 spec., Sept., 1872).—HARTLAUB, Journ. für Orn., 1883, 28 (Dejahshanke, Alaska).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 241.—GREEN, Auk, vi, 1889, 68 (Onondaga Lake, New York, Aug. 27, 1888; other New York records).—AVERILL, Auk, vi, 1889, 189 (Stratford, Connecticut, Nov. 3, 1888).—WOODRUFF (L. B.), Auk, vii, 1890, 89 (New Haven, Connecticut, Oct. 23, 1887 and Oct. 19, 1889).—TODD, Auk, viii, 1891, 240 (Beaver, Pennsylvania, Sept. 16, 1889).—McCORMICK, Auk, ix, 1892, 397 (Lorain, Ohio).—MATTHEWS, Auk, xi, 1894, 325 (Alexandria Co., Virginia, Sept. 3, 1894).—ELLIOT, N. Am. Shore Birds, 1895, 83, pl. 22.—ULREY and WALLACE, Proc. Ind. Ac. Sci., 1895, 150 (Wabash, Indiana, 1 spec., no date; see Proc. Ind. Ac. Sci., 1893, 118).—TAYLOR (H. H.), Auk, xii, 1895, 179 (Seaside Park, Long Island, Sept. 29, 1894; 10 or more).—VAUGHAN, Auk, xiii, 1896, 80 (East Hampton, Long Island, Sept. 7, 1895).—BUTLER, Auk, xiv, 1897, 199 (Wabash, Indiana, Aug. 26, 1893; Millers, Indiana, Aug. 24, 1896, several).—HOLMBERG, Segundo censo Argentina, 1898, 568.—MAILLIARD, Auk, xv, 1898, 51 (Point Piños, California, Aug.

- 25, 1897).—BRAISLIN, Auk, xvi, 1899, 191 (Shinnecock Bay, Long Island, Oct. 31, 1898).—POSSON, Auk, xvi, 1899, 194 (Orlean's Co., w. New York, Aug. 20-Dec. 2; 7 specs.).
- [*Tringa bairdii*] COUES, Key N. Am. Birds, 1872, 255.
- T[*ringa bairdii*] RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois).—NELSON, Bull. Essex Inst., vii, 1876, 127 (n. e. Illinois, May, late Aug., early Sept.).
- Tringa bairdii*? ALLEN, Proc. Bost. Soc. N. H., xvii, 1874, 66 (Yellowstone River).
- Tringa bairdii* SCLATER, Proc. Zool. Soc. Lond., 1867, 332, 339 (Santiago, Chile); 1886, 404 (Huasco, Sacaya, and Cueva Negra, Tarapaca, Chile).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 144 (Conchitas, Argentina; crit.), 176 (Valley of Tambo, w. Peru), 570 (w. Peru); 1873, 455 (Neotropical localities; crit.).—HARTING, Ibis, 1870, 151 (Walvisch Bay, s. w. Africa, Oct. 24, 1863; Panama; Colombia; Peru).—RIDGWAY, Orn. 40th Parallel, 1877, 608 (Humboldt Marshes, Nevada, Aug. 26).—BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 60, 61 (Lake Umbagog, Maine).—SPELMAN, Bull. Nutt. Orn. Club, vi, 1881, 61 (Rye Beach, New Hampshire, Aug. 26, 1880).—MORAN, Bull. Nutt. Orn. Club, vii, 1882, 60 (Montauk, Long Island, Sept. 22, 1880).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 359.—SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxvi, 444, fig. of tail.—BERLEPSCH, Journ. für Orn., 1887, 133 (South American range).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos, Peru).—APLIN, Ibis, 1894, 209 (Rio Sauce, Uruguay).—CHERRIE, Auk, xii, 1895, 87 (Volcan de Irazu, 1,500 meters, June 8, 1894).—LANE, Ibis, 1897, 311 (Caucosa, Sacaya, and Lake Huasco, Chile, March; note).—JOURDAIN, Ibis, 1907, 518, pl. 11, fig. 5 (eggs, from Point Barrow, Alaska).
- [*Tringa bairdii*] SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.
- Heteropygia bairdii* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 560, 768.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 188 (Barrington Island, Galapagos, 1 spec., Oct. 6); ix, 1902, 418 (Galapagos in migration).—HARTERT, Bull. Brit. Orn. Club, xi, 1900, 27 (Rye Harbor, Sussex, England, 1 spec., Oct. 11, 1900).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 390 (Sonora; Aguas Calientes; Zacatecas; Tres Marias Islands; City of Mexico; Las Vegas and Jalapa, Vera Cruz; Puebla; etc.).—BANGS, Proc. Biol. Soc. Wash., xix, 1906, 102 (Cerro de la Candelaria, near Escazu, Costa Rica, Oct.).—BERLEPSCH and STOLZMANN, Ornith., xiii, 1906, 126 (Huaynapata, Peru, Nov.).—DABBENE, Orn. Argentina, 1910, 220 (Cordoba; Tucuman; Misiones; Buenos Aires).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 57 (Barrington Island, Galapagos, Oct. 6, 1897; Cocos Island, Sept. 4, 1905).
- H[*eteropygia bairdii*] ROTHSCCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos).
- [*Heteropygia bairdii*] SHARPE, Hand-list, i, 1899, 164.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 72 (Santiago and Concepcion, Chile).
- Heteropygia bairdii* MENEGAUX, Rev. Franç. d'Orn., no. 2, 1909, 32 (Guantanamo, Cuba, Oct. 15).
- Pisobia bairdii* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 367.—JONES (L.), Wilson Bull., xxi, 1909, 126 (Oberlin, Ohio, 2 specs., Aug. 30 and April 28).
- Pisobia bairdii* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 114.—CARRIKER, Ann. Carnegie Mus., vi, 1910, 423 (San Jose, Costa Rica, Sept. 18).—JUMP, Auk, xxviii, 1911, 110 (Chatham, Massachusetts, Oct. 18, 1910).—HATHAWAY, Auk, xxx, 1913, 551 (Quanochontaug, Rhode Island, Aug. 14, 1907, and Aug. 30, 1912).—BROOKS (W. S.), Bull. Mus. Comp.

Zool., lix, 1915, 384 (Demarcation Point, n. e. Alaska, breeding; Herschel Island, Aug.; Providence Bay, n. e. Siberia, June 11; habits).

Erolia bairdi HARTERT, in Hartert, Jourdain, Ticehurst, and Witherby, *Hand-list of British Birds*, 1912, 176; Novit. Zool., xxiii, 1916, 91 (Africa; Siberia; crit.).

Tringa maritima (not of Brünnich) RUSSELL, *Expl. Far North*, 1898, 259, part (Herschel Island, 3 specs., July 13 to Aug. 14).^a

PISOBIA FUSCICOLLIS (Vieillot).

BONAPARTE'S SANDPIPER.

In summer plumage (only) resembling *P. bairdi*, but readily distinguished by the white (instead of dusky) median upper tail-coverts and much more broadly streaked as well as less buffy (nearly pure white) chest.

Adults in summer (sexes alike).—General color of upper parts light grayish brown or brownish gray, more or less tinged on crown, back, and innermost scapulars with light rusty or cinnamon, the feathers of pileum and hindneck, scapulars and interscapulars, black medially, producing conspicuous streaks, broadest and more spot-like on dorsal region; wing-coverts grayish brown or brownish gray, darker centrally and paler on margins and with indistinct shaft-streaks of dusky, the greater coverts narrowly tipped with white; primary coverts and remiges dark brownish gray or dusky (the secondaries and proximal primaries somewhat lighter), the secondaries narrowly edged with paler and margined terminally (more broadly on proximal ones) with dull white; tertials dusky grayish brown medially, passing into much lighter grayish brown toward edges; rump dusky grayish brown, the feathers margined with pale grayish buffy or buffy grayish; upper tail-coverts white, the median ones immaculate, or nearly so, the lateral ones with a cuneate dusky marking on outer webs; tail grayish brown, very dark (dusky) on middle pair of rectrices, much paler on lateral rectrices, all narrowly edged with paler and (except median pair) narrowly margined terminally with whitish; sides of head and neck and entire under parts white, the chin, upper throat, breast, abdomen, anal region and (usually?) under tail-coverts immaculate, elsewhere streaked with dusky, the streaks broadest (more or less guttate) on chest and sides of breast, becoming gradually smaller and narrower anteriorly, the sides and flanks with irregular, more or less hastate, spots and streaks of dusky, the under tail-coverts sometimes with a few short shaft-streaks of dusky; maxilla blackish, more brownish basally, the mandible brownish (in dried skins) becoming blackish terminally; iris brown; legs and feet dusky brownish (in dried skins).

Winter plumage.—Wings, rump, upper tail-coverts, and tail as in summer; rest of upper parts brownish gray or grayish brown, the

^a Specimens examined by me.—R. R.

feathers with rather indistinct narrow mesial streaks of dusky; under parts as in summer, but streaks on chest, etc., less sharply defined.

Young.—Scapulars and interscapulars blackish margined terminally with white and edged laterally with cinnamon-rufous or rusty, the median interscapulars tipped with the latter color; feathers of pileum, and rump, as well as tertials, dusky margined with rusty; wing-coverts margined with pale grayish buffy; otherwise as in winter plumage, but chest, etc., tinged, more or less strongly, with buffy or pale fulvous.

Adult male.—Wing, 117–122.5 (119.7); tail, 50–53 (51.4); exposed culmen, 21–24 (22.7); tarsus, 22–24 (23.1); middle toe, 18–21 (19.2).^a

Adult female.—Wing, 116.5–124 (120.6); tail, 50–54 (51); exposed culmen, 21–26 (23.1); tarsus, 22–24 (22.8); middle toe, 19–19.5 (19.1).^b

Breeding along or near Arctic coast of North America, from north-western Mackenzie to Cumberland Island; occurring also in summer (but not breeding?) west to Point Barrow, Alaska, and east to Greenland; migrating southward, eastward of Rocky Mountains, chiefly through Mississippi Valley, to southern South America, wintering in Paraguay (Rio Pilcomayo; Rio Paraná), Uruguay (Montevideo), Argentina (Buenos Aires; Ranchos; Los Inglesas; near Esquina, Cape San Antonio; Entre Rios; Mocovi; Córdova; Puerto San Julian, Patagonia; central Patagonia), southern Chile (Gregory Bay, Straits of Magellan; Punta Anegada, Tierra del Fuego), and Falkland Islands; in transit occurs sparingly at intermediate points south of United States, the few Middle American records being as follows, in part: Cuba; Jamaica; Barbuda; Santa Lucia; Guadeloupe; Barbados, in West Indies; Bermudas, frequent in autumn; Yucatán (Tizimín; Cozumel Island); Nicaragua (Momotombo); Panama (Lion Hill). Casual in Europe (Franz Josef Land, June 28, 1897; San Miguel, Azores; British Islands, ♂ records).

Tringa fuscicollis VIEILLOR, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 461 (Paraguay; based on *Chorlito pestorejo pardo* Azara, Apunt. Parag., iii, 1805, 322).—HARTLAUB, Index Azara's Apunt., 1847, 25.—DRESSER, Birds Europe, viii, 1873, 15 pl. 547.—BERLEPSCH, Journ. für Orn., 1874, 263 (Santa Catarina; s. Brazil; synonymy; crit.); 1887, 36 (Rio Pilcomayo, Paraguay, Jan.), 126 (Paraguay).—COUES, Birds Northwest, 1874, 487.—SCLATER, Proc. Zool. Soc. Lond., 1876, 14 (Santa Lucia, Lesser Antilles).—DURNFORD, Ibis, 1878, 68 (Buenos Aires, spring and autumn), 404 (centr. Patagonia, common, "resident").—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1878, 438 (Falkland Islands); Voy. 'Challenger,' ii, pt. viii, 1881, 109 (Peckett Harbor, Falkland Islands).—MAYNARD, Birds E. N. Am., 1879, 382.—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 169 (Santa Lucia); Bull. Am. Mus. N. H., ii, 1889, 109 (Falls of Rio Madeira, Bolivia, Oct.); v, 1893, 150 (Chapada, Mattogrosso,

^a Twelve specimens.

^b Two specimens.

- s. w. Brazil, Oct.).—RODD, Birds Cornwall, 1880, 105 (Penzance, Oct.).—SHARPE, Proc. Zool. Soc. Lond., 1881, 16 (Peckett Harbor).—WHITE, Proc. Zool. Soc. Lond., 1883, 42 (Buenos Aires).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 168.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 373; Man. Brit. Birds, 1889, 567.—SALVIN, Ibis, 1889, 379 (Cozumel Island).—FEILDEN, Ibis, 1889, 494 (Barbados, July to Nov.).—SCLATER and HUDSON, Argentine Orn., ii, 1889, 185.—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 235 (Bermudas, frequent).—BARROWS, Auk, i, 1884, 314 (Concepcion, Uruguay).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 240.—SETON, Auk, iii, 1886, 158 (near Shoal Lake Manitoba, abundant June 4; Duck Mountain, numerous, June 8).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 360.—BRYANT (W. E.), Auk, vi, 1887, 79 (Oakland, California, Oct. 8, 1883).—CORY, Auk, iv, 1887, 314 (West Indian localities and references); Birds West Ind., 1889, 235; Cat. West Ind. Birds, 1892, 93.—NELSON, Rep. N. H. Coll. Alaska, 1887, 109 (Point Barrow).—COOKE, Bird Migr. Miss. Val., 1888, 93.—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1889, 117 (Gregory Bay, Straits Magellan).—SCOTT, Auk, vi, 1889, 157 (Tarpon Springs, Florida); ix, 1892, 13 (Jamaica).—CANTWELL, Auk, vi, 1889, 340 (Minnesota).—WARREN, Birds Penn., 2nd ed., 1890, 85.—PALMER (W.), Proc. U. S. Nat. Mus., xiii, 1890, 260 (Mingan Islands).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 500 (Manitoba).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 426 (Franklin Bay; descr. nest and eggs).—HOLLAND, Ibis, 1891, 20 (near Ranchos, Argentina; habits); 1892, 211 (Estancia Espartilla, Argentina; habits).—KERR, Ibis, 1892, 151 (Rio Pilcomayo, Argentina).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos, Peru).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 78 (Trinidad).—BAGG, Auk, xi, 1894, 163 (Oneida Lake, New York, Nov. 3, 1891, several).—BROWN (E. J.), Auk, xi, 1894, 259 (Smith's Island, Virginia, May 14-28).—ELLIOT, N. Am. Shore Birds, 1895, 81, pl. 21.—POYNTING, Eggs Brit. Birds, pt. iii, 1896, 141, pl. 30.—KOENIGSWALD, Journ. für Orn., 1896, 395 (São Paulo, s. Brazil).—CLARKE (W. E.), Ibis, 1898, 259 (Franz Josef Land, 1 spec., June 28, 1897).—HOLMBERG, Segundo censo Argent., 1898, 569.—HARTERT and GRANT, Novit. Zool., xii, 1905, 128 (San Miguel, Azores).—REISER, Denkw. Mat.-Nat. Kaiserl. Ak. Wiss. Wien, 1910, 94 (Rio Grande, n. e. Brazil, April 8).—GRANT (C. H. B.), Ibis, 1911, 468 (Los Inglesas and near Esquina, Cape San Antonio, Argentina, Oct.-March).
- [*Tringa fuscicollis* GRAY, Hand-list, iii, 1871, 50, no. 10318.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.—CORY, List Birds West Ind., 1885 and revised ed., 1886, 26.—BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay).
- Tringa fuscicollis* Tschudi, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 312 (Peru).
- Tringa fuscicollis* GRAY, Gen. Birds, iii, 1845, 580.—NEWTON (A. and E.), Handb. Jamaica, 1881, 116.—RIDGWAY, Man. N. Am. Birds, 1887, 157.
- [*Actodromus fuscicollis* BONAPARTE, Compt. Rend., xliii, 1856, 596.
- Actodromas fuscicollis* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199 (Cat. N. Am. Birds, no. 536); Nom. N. Am. Birds, 1881, no. 536.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 227.—MURDOCH, Auk, ii, 1885, 63 (Point Barrow, Alaska); Exped. Point Barrow, Birds, 1885, 112 (straggler).—TURNER, Proc. U. S. Nat. Mus., vii, 1885, 246 (Koksoak River, Labrador).—AGERSBERG, Auk, ii, 1885, 286 (s. e. South Dakota, rare migrant).—RILEY, Smithson. Misc. Coll., vol. 47, 1904, 230 (Barbuda, Sept. 20, 22).

Heteropygia fuscicollis SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 574, 768.—SCHALOW, Zool. Jahrb., Suppl. iv, Heft 3, 1898, 660 (Punta Anageda, Tierra del Fuego, Jan.).—IHERING, Rev. Mus. Paulista, iii, 1899, 438 (Ypiranga and Iguape, São Paulo, s. Brazil).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 391 (Tizimin and Cozumel Island, Yucatan; Momotombo, Nicaragua; Lion Hill Panama; Patagonia; Falkland Islands; West Indies).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Mocovi, etc., Argentina, Jan., May, Sept.).—DABBENE, Orn. Argentina, 1910, 220 (Patagonia; Tierra del Fuego; Cordova; Mocovi, Chaco; Buenos Aires; Entre Rios).

[*Heteropygia*] *fuscicollis* SHARPE, Hand-list, i, 1899, 164.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 73 (Bermudas; crit.).

Pisobia fuscicollis AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 367; Check List, 3rd ed., 1910, 114.—BERLEPSCH, Novit. Zool., xv, 1908, 308 (Cayenne).—HENDERSON, Univ. Colo. Stud. Zool., vi, 1909, 228 (Boulder Co., Colorado, rare migrant).—CLARK (A. H.), West Ind. Bull., xi, no. 3, 1911, 183 (Santa Lucia, Lesser Antilles).—NORTON, Auk, xxix, 1912, 536 (Scarborough, Maine, April 27, 1912).—BERTON, Fauna Parag., 1914, 39 (upper Rio Parana).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 385 (Demarcation Point, n. e. Alaska, June 5, 7).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 44 (Porto Rico, rare migrant).

(?) *T[ringa] campestris* (not of Vieillot) LICHTENSTEIN, Verz. Doubl., 1823, 74 (Brazil; Montevideo, Uruguay; cites *Chorkito a col brun* Azara).

(?) *Tringa campestris* BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 374.—CABANIS, Journ. für Orn., 1878, 199 (Argentina).

Pelidna cinclus, var. SAY, in Long's Exped. Rocky Mountains, i, 1823, 172.

Tringa schinzii (not of Brehm, 1822)^a BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 317; Synopsis, 1828, 249; Am. Orn., iv, 1833, 69, pl. 24, fig. 2.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 384.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 109.—AUDUBON, Orn. Biog., iii, 1835, 529, pl. 278; Synopsis, 1839, 236; Birds Am., 8vo ed., v, 1842, 275, pl. 335.—GOULD, Birds Europe, iv, 1837, pl. 330 and text.—PEABODY, Rep. Orn. Mass., 1839, 367.—TEMMINCK, Man. d'Orn., iv, 1840, 401 (not of p. 400!).—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 72; Hist. Brit. Birds, iv, 1852, 222.—YARRELL, Brit. Birds, ii, 1843, 651 (Stoke Heath, England); iii, 1845, 74; 3rd ed., iii, 1856, 79.—GIRAUD, Birds Long Island, 1844, 241.—DEKAY, N. Y. Zool., 1844, 241, pl. 84, fig. 191.—RODD, Zoologist, 1846, 1554 (Penzance, Cornwall).—JARDINE, Contr. Orn., 1849, 83 (Bermudas, Sept., Oct., common).—LEMBEYE, Aves de la Isla de Cuba, 1850, 98.—THOMPSON, Birds Ireland, ii, 1850, 297.—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Massachusetts).—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 296 (Franklin Co., Indiana).—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Mich.).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 451 (Guadeloupe).

Tr[inga] schinzii MARTENS, Journ. für Orn., 1858, 218 (Bermudas).

Pelidna schinzi BONAPARTE, Geog. and Comp. List, 1838, 50.

Pelidna schinzii BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (Europe and America).—CABANIS, Journ. für Orn., 1856, 421 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 87 (Cuba; crit.)

^a=*Pelidna alpina alpina*.

Tringa schinzii HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—HURDIS, Jardine's Contr. Orn., 1850, 9 (Bermudas, autumn).

Schenchius schinzii GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 105 (West Indies; Puerto de San Julian, Patagonia).

Tringa bonapartei SCHLEGEL, Rev. Crit., 1844, p. lxxxix (North America; accidental in England); Mus. Pays-Bas, v. no. 27 (Scolopaces), 1864, 42.—GRAY, List Brit. Birds, 1863, 167.—PELZELN, Orn. Bras., 1870, 311 (Ypanema, May to Sept.; Cuyaba, Sept.; Caicara, Oct.; Engenho do Gama, Sept.; Matto-grosso, Aug., Oct.; Maribitanas, May).—COUES, Check List, 1873, no. 421.—CORY, Birds Bahama Is., 1880, 159.

[*Tringa*] *bonapartei* PELZELN, Orn. Bras., 1870, 457.—GRAY, Hand-list, iii, 1871, 49, no. 10307.

[*Tringa*] *bonapartei* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois).

Actodromas bonapartei HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 294 (New England); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 30 (Fort Macon, North Carolina); Am. Nat., v, 1871, 197 (near Fort Riley, Kansas).—ALLEN, Am. Nat., iii, 1869, 639 (Massachusetts; error).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England).

Actodromas (Heteropygia) bonapartei COUES, Proc. Ac. Nat. Sci. Phila., 1861, 232 (Labrador; habits).

Pelidna bonapartei GOULD, Birds Great Brit., iv, 1873, pl. 71 and text.

Tringa bonapartii THIENEMANN, Rhea, i, 1846, 126 (England).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 722, part, but chiefly *P. bairdi*.—BAIRD, Cat. N. Am. Birds, 1859, no. 533, part.—SCLATER, Proc. Zool. Soc. Lond., 1860, 387 (Falkland Islands); 1861, 80 (Jamaica); Proc. Zool. Soc. Lond., 1867, 339 (Chile).—ABBOTT, Ibis, 1861, 156 (Falkland Islands; said to breed!).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—BLAKISTON, Ibis, 1863, 132 (Saskatchewan and Mackenzie rivers).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 339 (Chile), 591 (Mexicana Island); 1868, 144 (Conchitas, Buenos Aires, winter visitant; crit.); 1873, 186 (Cosnipata, Peru), 455 (Neotropical localities; crit.).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—HARTING, Handb. Brit. Birds, 1872, 143 (9 English records).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 560 (Laguna Villa, Chorillos, Peru).—MOORE, Proc. Bost. Soc. N. H., xix, 1877, 241 (Bahamas).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 147 (9 English records).

[*Tringa*] *bonapartii* REINHARDT, Journ. für Orn., 1854, 441 (Greenland).—COUES, Key N. Am. Birds, 1872, 255.

[*Actodromas*] *bonapartii* LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City).

Tringa buonapartii MATHEW, Zoologist, vi, 1871, 2441 (Barnstaple, England).

Pelidna americana BREHM, Naumannia, 1855, 292.

Actodromas melanotos (not *Tringa melanotos* Vieillot, 1819) BONAPARTE, Rev. et Mag. de Zool., ix, 1857, 59 (Europe).

[*Tringa*] *melanotos* D'HAMONVILLE, Cat. Ois. Eur., 1876, 50 (England; France).

Tringa melanotos (not of Vieillot) BLASIUS, List Birds Europe, 1862, 19.—LÉOTAUD, Ois. Trinidad, 1866, 472.

[*Pelidna*] *melanotos* BONAPARTE, Compt. Rend., xliii, 1856, 596.

Pelidna melanotos DEGLAND and GERBE, Ois. Eur., ii, 1867, 201.

PISOBIA COOPERI (Baird).

COOPER'S SANDPIPER.

Similar in coloration to *P. fuscicollis* but summer adult ^a with white of median upper tail-coverts broken by V-shaped marks of dusky, and size decidedly greater.

Adult male in summer (sex not determined).—General color of upper parts brownish gray or grayish brown, the feathers blackish centrally or mesially, producing rather large, irregularly cuneate spots on back and scapulars and streaks elsewhere, the latter broadest on crown, where the ground color inclines to grayish buff; a few of the more posterior scapulars slightly tinged with light cinnamon-buff or rusty ochraceous; rump dusky brownish gray, the feathers margined with grayish white and with blackish shaft-streaks; upper tail-coverts white, with irregular sagittate and V-shaped marks of dusky; wing-coverts brownish gray, the smaller with darker centers and blackish shafts, the greater distinctly tipped with white; remiges dusky, the proximal primaries edged basally with white, the proximal secondaries more broadly margined terminally with white; shafts of primaries white post-medially, passing into grayish brown basally and terminally; tail light brownish gray, the middle rectrices darker, becoming still darker terminally, the others narrowly margined with whitish; sides of head and neck white or grayish white, faintly tinged with buffy or pale ochraceous and narrowly streaked with dusky, the supraloral region, however, nearly immaculate (minutely and sparsely flecked); under parts white, the chin, upper throat, breast, abdomen, and anal region immaculate, the lower throat, foreneck, and chest tinged with buffy and rather densely streaked with dusky, the upper breast, sides, and flanks marked with irregular streaks (becoming more or less sagittate or hastate on flanks) of dusky, the under tail-coverts with narrow mesial streaks of the same; axillars and most of under wing-coverts immaculate white, the coverts near edge of wing spotted with dusky, the under primary coverts pale gray edged and tipped with white; length, about 241.5; wing, 146; tail, 57; exposed culmen, 31; tarsus, 29; middle toe, 22.^b

Long Island, New York (Raynor South, May 24, 1833; only one specimen known).

^a No other phase of plumage is known.

^b One specimen, the type, No. 5989, coll. U. S. Nat. Mus., Raynor South, Long Island, New York, May 24, 1833; collected by William Cooper.

The relationship of this bird, the type of which remains unique, is distinctly with *P. fuscicollis*, from which it could hardly be distinguished but for its decidedly greater size, all its measurements exceeding the maximum of them of *P. fuscicollis*. It needs no comparison with *Canutus canutus*, the coloration, *in toto*, and the proportions being very different.

Tringa cooperi BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 716 (Raynor South, Long Island, New York; coll. U. S. Nat. Mus.); ed. 1860 (Birds N. Am.), atlas, pl. 89, fig. 1; Cat. N. Am. Birds, 1859, no. 527.—COUES, Check List, 1873, no. 422; Birds Northwest, 1874, 491.—MAYNARD, Birds Eastern N. Am., 1879, 521.—ELLIOT, N. Am. Shore Birds, 1895, 79.

[*Tringa*] *cooperi* GRAY, Hand-list, iii, 1871, 49, no. 10309.

[*Tringa*] *cooperii* COUES, Key N. Am. Birds, 1872, 255.

[*Tringa*] *cooperi* RIDGWAY, Man. N. Am. Birds, 1887, 157.

Actodromas (*Heteropygia*) *cooperi* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 202 (monogr.).

Actodromas cooperi RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 199; Nom. N. Am. Birds, 1881, no. 535.—COUES, Check List, 2d ed., 1882, no. 618.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 226.

Tringa (*Actodromas*) *cooperi* AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 352 (in Hypothetical List); 2d ed., 1895, 328 (in Hypothetical List).

A[ctodromas] cooperi? COUES, Key N. Am. Birds, 2d ed., 1884, 627.

[*Actodromas*] *cooperi* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 294 (Long Island).

Heteropygia cooperi SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 574, footnote.

[*Heteropygia*]? *cooperi* SHARPE, Hand-list, i, 1899, 164.

Pisobia cooperi AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 371.

PISOBIA RUFICOLLIS (Pallas).

RUFOUS-NECKED SANDPIPER.

Nearest *P. minuta*,^a but wing and tail averaging decidedly longer, bill and tarsus shorter, the bill stouter (especially toward base); summer adults with throat and foreneck plain cinnamon-rufous (instead of white flecked with grayish brown) and winter plumage lighter above.

Adult male in summer.—Pileum (except anterior and lateral portions of forehead) broadly streaked with black, the feathers edged with light rusty brown or cinnamon-rufous and dull whitish; hindneck light cinnamon-rufous more or less tinged or intermixed with pale grayish brown, narrowly and indistinctly streaked with dusky; interscapulars black centrally, light cinnamon-rufous laterally, the scapulars similar but the cinnamon-rufous more or less intermixed with brownish gray, the elongated posterior ones with little if any cinnamon-rufous; wing-coverts and tertials brownish gray margined with paler and with darker shaft-streaks, the anterior lesser coverts darker and more uniform grayish, the greater coverts tipped with white; proximal secondaries (next to tertials) mostly white, the distal ones dark brownish gray narrowly edged distally with white; primaries and primary coverts dark brownish gray or dusky, with white shafts, the proximal ones narrowly edged basally with white; rump and shorter upper tail-coverts blackish, the feathers narrowly margined terminally with pale gray and whitish;

^a See p. 268.

longer upper tail-coverts and middle pair of rectrices black, the lateral longer upper tail-coverts white; other rectrices pale brownish gray with shafts mostly white, their inner webs fading into whitish basally; anterior and lateral portions of forehead dull white to pale cinnamon-rufous; loreal, suborbital, auricular and malar regions, throat, foreneck, and sides of neck light cinnamon-rufous or orange-cinnamon, paler (sometimes whitish) on chin, the sides of neck usually (sometimes lower foreneck also) narrowly streaked with dusky; rest of under parts white, for the greater part immaculate, but chest (at least upper portion) more or less streaked (narrowly) or longitudinally flecked with dusky; axillars and most of under wing-coverts immaculate white, the coverts along edge of wing brownish gray margined with white, the under primary coverts very pale brownish gray broadly tipped with white; bill and feet blackish; iris brown.

Adult female in summer.—Similar to the adult male and not always distinguishable, but usually with the cinnamon-rufous of head and neck somewhat paler and more restricted.

Winter plumage.—Above light brownish gray, the pileum, back, and scapulars mesially streaked (usually narrowly) with black; wings and tail as in summer adults; forehead (at least laterally) loreal, suborbital, and malar regions and entire under parts immaculate white, the sides of chest grayish.

Young.—General color of upper parts pale brownish gray, the crown and occiput broadly streaked with dusky and tinged with pale brown; scapulars and interscapulars black centrally, margined with pale brown, the exterior and posterior scapulars margined terminally with white; wings as in adults but general color slightly more brownish gray; anterior and lateral portions of forehead, suborbital and malar regions, and under parts immaculate white, the chest (except median portion) shaded with pale brownish gray and indistinctly streaked laterally with dusky.

Downy young.—Forehead and sides of head light brownish buff or vinaceous-buff, fading into dull white on chin and throat; a narrow loreal streak of black, from near base of bill to anterior angle of eye (broadest anteriorly); a median black streak on posterior half of forehead, and an indistinct auricular spot of dusky; crown and occiput mixed black and light snuff brown, the latter with a few irregular spots of buffy whitish; back, rump, etc. mixed black and snuff brown, spangled with dull buffy whitish; under parts immaculate buffy white, the chest shaded with pale brownish gray.

Adult male.—Wing, 91.5–101 (97.3); tail, 39–47.5 (43.1); exposed culmen, 16–17 (16.4); tarsus, 17.5–19 (18.3); middle toe, 14–16 (15.2).^a

^a Ten specimens.

Adult female.—Wing, 95–104 (100.6); tail, 39–46.5 (43.5); exposed culmen, 16.5–18 (17.4); tarsus, 17.5–20 (18.6); middle toe, 14–16 (15.6).^a

Breeding in delta of the Lena River, northeastern Siberia; migrating southward, through eastern Siberia, Kamchatka (including Commander Islands), Korea, Kuril Islands, Japan, China, Formosa, Philippine Islands, Burma, Malay Peninsula, etc., to Andaman and Nicobar Islands, Aru Islands, Salawati, Duke of York Island, and Australia; casual or accidental in western Alaska (Nome, July 10, 1908, breeding).^b

Trynga ruficollis PALLAS, Reis. Russ. Reichs, iii, 1776, 700 (Kulussutai, e. Siberia).

Tringa ruficollis VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1819, 461.—WALDEN,

Trans. Zool. Soc. Lond., ix, 1875, 234 (Luzon, Philippines, Feb.).—DAVID

and OUSTALET, Ois. Chine, 1877, 472.—HUME, Stray Feath., viii, 1879,

113; xi, 1888, 323 (Manipur, India).—KELHAM, Ibis, 1882, 17 (Singapore).—

BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, x, 1882, 112.—OATES,

Handb. Birds Brit. Burma, ii, 1883, 390.—BLAKISTON, Amend. List Birds

Japan, 1884, 37 (Kuril Islands).—SEEBORN, Ibis, 1884, 34, 308 (Kiukiang,

China).—BOGDANOW, Consp. Av. Imp. Ross., 1884, 93.—SHARPE, Ibis,

1884, 203 (Palawan); 1890, 143 (Pulo Tega, April).—PALMÉN, Vega-Exped.,

Fogelf., 1887, 324.—EVERETT, Journ. Straits Branch Asiat. Soc., 1889, 207

(Labuan).—WHITEHEAD, Ibis, 1890, 59 (Palawan, Sept.).—STEELE, List

Birds and Mam. Exped. Philip., 1890, 26 (Palawan).—CAMPBELL, Ibis, 1892,

246 (Korea).—DE LA TOUCHE, Ibis, 1892, 499 (Foochow, China).—LÖNN,

Proc. Austral. Assoc., 1892, 24.—STYAN, Ibis, 1893, 437 (Hainan).—

TACZANOWSKI, Mém. Acad. Imp. Sci. St. Petersb., (7); xxxix, 1893, 920.—

DRESSER, Ibis, 1908, 489, pl. 10, figs. 7–9 (delta of Lena River, n. e. Siberia,

breeding; descr. nest and eggs).

[*Tringa*] *ruficollis* LATHAM, Index Orn., ii, 1790, 736 (near Salt Lakes of Danube).

Actodromas ruficollis STEINER, Bull. U. S. Nat. Mus., no. 29, 1885, 118 (Seniavine

Straits and Bering Island, Kamchatka; crit.); Proc. U. S. Nat. Mus., x,

1887, 130 (Commander Islands).

Limonites ruficollis SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 545, 767.—THAYER,

Condor, xi, 1909, 173 (Nome, Alaska, breeding).—BUTURLIN, Condor, xii,

^a Ten specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males of <i>P. ruficollis</i>	97.3	43.1	16.4	18.3	15.2
Two adult males of <i>P. minuta</i>	91	38	17.5	19.5	15
FEMALES.					
Ten adult females of <i>P. ruficollis</i>	100.6	43.5	16.5	18.6	15.6
Six adult females of <i>P. minuta</i>	94.9	40.6	13.3	20.4	15.3

^b This record, however, together with one of an alleged North American specimen in the collection of Count X. Branicki, Warsaw, Poland, is discredited by the A. O. U. Committee (Check List, 3rd ed., 1910, 371).

- 1910, 44 (supposed North American specimen in coll. Count Branicki, Warsaw).
- [*Limonites*] *ruficollis* SHARPE, Hand-list, i, 1899, 163.
- Pisobia ruficollis* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 371.—MATHEWS, Birds Australia, iii, pt. 3, 1913, pls. [159, 160] facing pp. 247, 251.
- Tringa minuta ruficollis* SEEBOHM, Hist. Brit. Birds, iii, 1885, 205; Ibis, 1888, 348 (delta of Lena River, n. e. Siberia); Geog. Distr. Charadriidæ, 1888, 437.—NIKOLSKI, Ile de Sakhal., 1889, 261 (Saghalin Island).
- Pisobia minuta ruficollis* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 247.—THAYER and BANGS, Auk, xxxiii, 1916, 45 (Saghalin Island, May).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 382 (Providence Bay and Cape Serdze, n. e. Siberia, breeding).
- Totanus damacensis*, part, HORSFIELD, Trans. Linn. Soc., xiii, 1821, 192 (Java; see Hartert, Novit. Zool., xxxiii, 1916, 92).
- Tringa damacensis* SWINHOE, Ibis, 1863, 413 (Formosa); Proc. Zool. Soc. Lond., 1871, 409 (coast of China).
- Tringa albescens* TEMMINCK, Pl. Col., v, 1823, pl. 41 and text ("Oceania").—REICHENBACH, Handb., Grall., 1846, pl. 73, fig. 633.—GRAY, Proc. Zool. Soc. Lond., 1858, 197 (New Guinea and Australia); 1861, 438 (New Guinea); Cat. Birds New Guinea, 1859, 52, 62.—SWINHOE, Ibis, 1863, 413 (Formosa); 1875, 455 (Hakodate, Japan).—ROSENBERG, Journ. für Orn., 1864, 137 (New Guinea).—DRESSER, Birds Europe, viii, 1871, 33.—WALDEN, Ibis, 1873, 317 (South Andaman, Jan.).—SHARPE, Ibis, 1876, 52 (Matu, May).—BLAKISTON and PRYER, Ibis, 1878, 221 (Yezo, Japan).—TWEEDDALE, Proc. Zool. Soc. Lond., 1878, 715 (Philippines).—HUME, Stray Feath., viii, 1879, 113, 157 (Tonka; Salangore).—SALVADORI, Ann. Mus. Genov., xviii, 1882, 327 (distr. in Pacific); Orn. Papuasias, iii, 1882, 315 (Aru Islands; Salawati); Agg. Orn. Papuasias, iii, 1891, 201.—MEYER, Sitz. Abhandl. Ges. 'Isis' Dresd., 1884, Abh. i, p. 65 (Sangi).—GUILLEMARD, Proc. Zool. Soc. Lond., 1885, 417 (Sandakan Bay), 576 (Weda Island).—BLASIUS, Ornith., iv, 1888, 627 (Great Sanghir).—WIGLESWORTH, Abhandl. K. Mus. Dresd. for 1890-91, no. vi, 1891, 64.—STYAN, Ibis, 1891, 330, 506 (lower Yangtse River, China).
- Calidris albescens* CUVIER, Règne Anim., i, 1829, 526.
- Schanicus albescens* GOULD, Birds Australia, vi, 1848, pl. 31 and text.—REICHENBACH, Handb., Grall., 1851, pl. 386, figs. 2658-2660.—MACGILLIVRAY, Voy. "Rattlesnake," ii, 1852, 358.—SCLATER, Proc. Linn. Soc., ii, 1858, 170.
- [*Actodromus*] *albescens* BONAPARTE, Compt. Rend., xliii, 1856, 596.
- Actodromas albescens* SALVADORI, Ucc. Born., 1874, 323 (Sarawak).—SHARPE, Ibis, 1879, 271 (Lumbidan).—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 586 (Olga Bay, Korea).
- [*Actodromas*] *albescens* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 329 (Australia).
- Tringa (Schanicus) albescens* RAMSAY, Proc. Linn. Soc. N. S. W., ii, 1877, 198, iv, 1879, 92, 101; Tab. List Austral. Birds, 1888, 20.
- [*Tringa*] *Calidris australis* (not of Gmelin) LESSON, Traité d'Orn., 1831, 558 (Australia; coll. Paris Mus.).
- [*Tringa*] *australis* GRAY, Hand-list, iii, 1871, 50, no. 10314.
- [*Actodromas*] *australis* BONAPARTE, Compt. Rend., xliii, 1856, 596.
- Actodromas australis* GOULD, Handb. Birds Australia, ii, 1865, 257.
- Tringa pusilla* (not of Linnæus) MÜLLER, Verh. Land-en Volkenk., 1839-44, 23 (Oetanata).
- Tringa minuta* (not of Linnæus) MIDDENDORFF, Reis. Sibir., Zool., 1851, 222, part.—SCHRENCK, Reis. Amurl., ii, 1859, 423, part.—ROSENBERG, N. T.

- Nederl. Ind., xxv, 1863, 255; Reis. naar Geelvinkb., 1875, 8; Malay Archip., 1878-79, 278, 373 (Ke Island), 565.—HARTLAUB and FINSCH, Proc. Zool. Soc. Lond., 1868, 8, 118; 1872, 106 (Pelew Islands); Vög. Ostaf., 1870, 764, part.—WALDEN, Trans. Zool. Soc. Lond., viii, 1872, 97 (Celebes).—HUMM, Stray Feath., i, 1873, 315 (Andaman Islands); ii, 1874, 289 (Andamans; Nicobars, Dec.-June); iii, 1875, 323 (Mergui).—ARMSTRONG, Stray Feath., iv, 1876, 342 (Elephant Point).—RAMSAY, Proc. Linn. Soc. N. S. W., i, 1876, 375 (Duke of York Island); Tweeddale's Orn. Works, 1881, 196.—SALVADORI, Ann. Mus. Genov., xiv, 1879, 666.—MEYER, Ibis, 1879, 143 (Limbotta, July).—FINSCH, Ibis, 1881, 540 (New Britain); Vög. Südsee, 1884, 5, 23.—SEEBOHM, Birds Jap. Empire, 1890, 327 (Kuril Islands).
- Tringa temminckii* (not of Leisler) BLAKISTON, Ibis, 1862, 330 (n. Japan, Aug.).
- Tringa salina* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 199 (Dauria and Desert of Mongolia; Yenisei; Kamchatka and the islands opposite America).
- Tringa salina* DYBOWSKI and PARVEX, Journ. für Orn., 1868, 337 (Dafasun).—SWINHOE, Proc. Zool. Soc. Lond., 1871, 409; Ibis, 1873, 231 (off Cochin China, May), 426 (Shanghai, April).—BLYTH and WALDEN, Birds Burma, 1875, 156.—BÜTGEMANN, Abh. nat. Ver. Bremen, v, 1876, 463.—TACKENOWSKI, Bull. Soc. Zool. France, i, 1876, 253.
- Tringa minutilla* (not of Vieillot) BEAN, Proc. U. S. Nat. Mus., v, 1882, 164 (Plover Bay, e. Siberia; see Stejneger, Auk, v, 1888, 306).

PISOBIA MINUTILLA (Vieillot).

LEAST SANDPIPER.

Adults in summer.—Pileum light grayish fulvous, or pale buffy brownish, broadly streaked with blackish, the hindneck more grayish and more narrowly and less distinctly streaked; scapulars and interscapulars blackish margined and somewhat barred, irregularly and mostly on subbasal (concealed) portion, with pale fulvous or cinnamon, some of the feathers margined terminally with whitish; wing-coverts deep grayish brown, paler toward margins, and blackish shafts, the greater coverts rather narrowly tipped with white; tertials dusky, passing into grayish brown on edges and narrowly margined terminally with paler; distal half of secondaries dusky, margined terminally with white, the proximal half (concealed by greater coverts) pale grayish brown; primaries and primary coverts dusky, the proximal primaries narrowly edged toward base with pale gray or whitish; rump and median upper tail-coverts (broadly) plain sooty black; lateral upper tail-coverts white with narrow mesial streaks of dusky; middle pair of rectrices dusky grayish brown, narrowly edged with paler, the remaining rectrices light grayish brown with shafts white (except terminally); a broad superciliary stripe of dull grayish whitish, distinct and nearly immaculate for anterior half, indistinctly and narrowly streaked with dusky for posterior (supra-auricular) portion; loreal and auricular regions pale grayish brown, the former minutely flecked the latter narrowly streaked with dusky; chest, foreneck, sides of breast, and sides of neck pale grayish brown or pale buffy grayish, narrowly (the first

rather indistinctly) streaked with dusky; rest of under parts immaculate white; bill blackish; iris brown; legs and feet blackish (more or less olivaceous in life).

Winter plumage.—General color of upper parts deep brownish gray or grayish brown, the feathers (especially scapulars and interscapulars) darker centrally; otherwise as in summer.

Young.—Similar to summer adults but many of the scapulars and interscapulars margined terminally with white (these feathers without transverse markings), wing-coverts margined with buffy, and chest decidedly buffy and very indistinctly streaked.

Downy young.—Forehead and sides of head pale brownish buffy, the posterior half of the former with a median streak of blackish; a narrow black loreal streak, extending from near base of bill to near anterior angle of eye; a very small and narrow dusky streak near rictus; auricular region with a blackish streak along middle portion, a much smaller and shorter one on upper-posterior portion, and a dusky spot beneath lower part; crown and occiput deep russet, the latter with a short median streak of black, bordered along each side by a broken and much less distinct one of pale dull buffy; rest of upper parts mixed russet and blackish, irregularly dotted or spangled with pale grayish buffy or dull buffy whitish, the wings nearly plain russet; under parts immaculate dull white, faintly tinged on chest with pale brownish or dull buffy.

Adult male.—Wing, 82–88 (85.5); tail, 35–40 (38.2); exposed culmen, 16–19 (17.2); tarsus, 16.5–19 (17.7); middle toe, 15–17 (16).^a

Adult female.—Wing, 83–91 (86.5); tail, 34–41 (37.1); exposed culmen, 17.5–20 (18.7); tarsus, 16–19 (18.1); middle toe, 15.5–17 (16.4).^b

^a Twenty-two specimens.

^b Sixteen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Ten adult males from Atlantic side of United States (migrants).	85.4	37.8	17.7	17.6	16
Ten adult males from Pacific side of United States (migrants)...	85.9	38.2	16.9	17.8	16.2
One adult male from Mexico (migrant).....	84.5	39.5	16	17.7	15.5
FEMALES.					
Five adult females from Atlantic side of United States (migrants)	88.3	39	19.3	17.9	16.2
Four adult females from coast of Alaska (breeding specimens)...	86.7	37.7	18	17.7	16.1
One adult female from Nebraska (migrant).....	86	37	19	18.5	16.5
Six adult females from California (migrants).....	88.2	38.5	18.5	18.4	16.5
One adult female from Mexico (migrant).....	87.5	39	18	19	17

Breeding from Magdalen Islands, Sable Island, Nova Scotia, Newfoundland, southern Ungava, central Keewatin, Yakutat Bay, Alaska, etc., northward to northern Ungava, more southern Arctic islands, and northwestern Alaska; migrating southward over whole of North and Middle America; wintering from North Carolina, Texas, California, etc., to Brazil (Cuyaba; Pernambuco; Pará; Mexiana Island; Bahia; Joaziero), Peru (Chorillos), western Ecuador (Balzar Mountains) and Galápagos Archipelago (Abingdon, Albe-marle, Barrington, Charles, Indefatigable, and Jervis Islands); Bermudas in autumn; occasional in Greenland (Godhavn) and northeastern Siberia (Plover Bay, Aug.); accidental in England (2 records).

[*Tringa pusilla* (not of Linnaeus) LATHAM, Index Orn., ii, 1790, 737, part.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 50 (England).]

Tringa pusilla WILSON, Am. Orn., v, 1812, 32, pl. 37, fig. 4.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 90 (crit.); Ann. Lyc. N.Y., ii, 1826, 319.—LICHTENSTEIN, Preis. Verz., Mex. Vög., 1830, 3; Journ. für Orn., 1863, 59 (reprint).—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 366.—LESSON, Traité d'Orn., 1831, 558.—AUDUBON, Orn. Biog., iv, 1838, 180, pl. 320; Synopsis, 1839, 237; Birds Am., 8vo ed., v, 1842, 280, pl. 337.—PEABODY, Rep. Orn. Mass., 1839, 368.—JARDINE, Contr. Orn., 1849, 83 (Bermudas, Aug., Sept.).—HURDIS, in Jardine's Contr. Orn., 1850, 9 (Bermudas).—WOODHOUSE, Sitgreaves Rep. Expl. Zuffi and Col. R., 1853, 100.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—KENNICOTT, Trans. Ill. Agric. Assoc., i, 1855, 587 (Illinois).—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Massachusetts).—SCLATER, Proc. Zool. Soc. Lond., 1856, 311 (Mexico).—YARRELL, Hist. Brit. Birds, 3rd ed., i, 1856, preface, p. vi.—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Mich.).—MAXIMILIAN, Journ. für Orn., 1859, 92 (descr., etc.).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 284 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—HOY, An. Rep. Smithsonian. Inst. for 1864 (1865), 438 (Missouri).—WEIZ, Proc. Bost. Soc. N. H., x, 1866, 267 (Okak, Labrador).—HARTING, Handb. Brit. Birds, 1872, 143 (2 British records).—ADAMS, Ibis, 1878, 439 (St. Michaels, Alaska, breeding; descr. nest and eggs).

Tr[inga] pusilla MARTENS, Journ. für Orn., 1859, 218 (Bermudas).

Pelidna pusilla BONAPARTE, Geog. and Comp. List, 1838, 50.—GOSSE, Birds Jamaica, 1847, 348.—GUNDLACH, Journ. für Orn., 1856, 422 (Cuba); 1862, 87 (Cuba; crit.).

Actodromas pusilla GOULD, Birds Great Brit., Intro., pt. xxv, 1873, p. cxvi.

Tringa minutilla VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 466 (Halifax, Nova Scotia; New York; Antilles).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 48.—LÉOTAUD, Ois. Trinidad, 1866, 476.—NEWTON, Proc. Zool. Soc. Lond., 1867, 165, pl. 15, fig. 3 (egg).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 571 (Mexiana Island); 1870, 323 (Indefatigable Island, Galapagos); 1873, 456 (geog. range).—DRESSER, Birds Europe, viii, 1871, 51, pl. 552, figs. 2, 3.—FINSCH, Abh. Nat. Verh. Bremen, iii, 1872, 65 (Yukon and Sitka, Alaska).—LAYARD, Ibis, 1873, 396 (Pará, Brazil).—COUES, Check List, 1873, no. 418; Birds Northwest, 1874, 482.—REINHARDT, Vid. Medd. nat. Forh., 1874, nos. 12-16, 1 (Greenland).—TACANOWSKI,

Proc. Zool. Soc. Lond., 1874, 561 (Laguna Villa, Chorillos, Peru); 1877 330 (Tumbez, Peru); Orn. du Pérou, iii, 1886, 358.—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 47 (Tehuantepec, Oaxaca, Oct.); Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 504 (Indefatigable Island, Galapagos); Proc. Zool. Soc. Lond., 1883, 429 (Esquimaux, British Columbia).—REIN, Zoologist, 1877, 476 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 235 (Bermudas, frequent).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas); Auk, v, 1888, 366 (Fort Klamath, Oregon, 1 spec., July 10).—BELDING, Proc. U. S. Nat. Mus., i, 1878, 441 (Stockton, California).—MAYNARD, Birds E. N. Am., 1879, 330.—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 169 (Santa Lucia).—RODD, Bird Cornwall, 1880, 108.—CORY, Birds Bahama Is., 1880, 158; Auk, iii, 1886, 502 (Grand Cayman); iv, 1887, 313 (West Indian localities and references); viii, 1891, 48 (Guadeloupe, Aug. to Oct.), 351 (Inagua, Bahamas); ix, 1892, 48, 49 (Maragauna and Inagua islands, Bahamas); Ibis, 1886, 502 (Grand Cayman); Birds West Ind., 1889, 234; Cat. West Ind. Birds, 1892, 93.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 170.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 396; Man. Brit. Birds, 1889, 573; Proc. Zool. Soc. Lond., 1893, 178 (North Devon, England).—MERRIAM, Auk, ii, 1885, 376 (Spectacle Reef, near Straits of Mackinac, May 21).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 213.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 242.—EVERMANN, Auk, iii, 1886, 91 (Ventura Co., California).—SETON, Auk, iii, 1886, 151 (Red River, Manitoba).—SCOTT, Auk, iii, 1886, 386 (Tucson, Arizona, in migration); vi, 1889, 157 (Gulf coast Florida to April 4); vii, 1890, 308 (Dry Tortugas, April); ix, 1892, 13 (Jamaica), 212 (Caloosahatchie River, Florida, winter).—PALMÉN, Vega-Exped., Fogelf, 1887, pl. 4.—TOWNSEND, Proc. U. S. Nat. Mus., x, 1887, 198, 235 (Humboldt Co., Calif.); Auk, iv, 1887, 12 (Kowak River, Alaska, June).—NELSON, Rep. N. H. Coll. Alaska, 1887, 110 (Nulato, May, June; Sitka, May; Chilcat, May; Belkovsky, July: Plover Bay, Siberia, Aug.).—DWIGHT, Auk, iv, 1887, 16 (Cape Breton Island, Aug.).—LLOYD, Auk, iv, 1887, 186 (Tom Green and Concho Counties, w. Texas, April 10 to May 12 and July 20 to Oct. 1).—COOKE, Bird Migr. Miss. Val., 1888, 93.—WARREN, Birds Penn., 1888, 36.—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1889, 120, 123, 127 (Indefatigable Island, Galapagos); xix, 1896, 631 (Indefatigable Island).—BISHOP, Auk, vi, 1889, 146 (Magdalen Islands, July).—JEFFRIES, Auk, vi, 1889, 223 (Santa Barbara, California, March 17 to April 4).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 501 (Manitoba; breeding?).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 427 (Ft. Anderson and Barren Grounds, Mackenzie).—HAGERUP, Birds Greenland, 1891, 55 (n. Greenland, occasional).—ATTWATER, Auk, ix, 1892, 232 (San Antonio, Texas, common migrant).—LAWRENCE (R. H.), Auk, ix, 1892, 354 (Gray's Harbor, Washington, April 30).—CHAPMAN, Bull. Am. Mus. N. H., iv, 1892, 289 (Casilda, Cuba); vi, 1894, 77 (Monega, Trinidad).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos, Peru).—HARTERT, Ibis, 1893, 335 (Bonaire).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 526 (Rio Escondido, Nicaragua; Rio Frio, Costa Rica).—FIELD, Auk, xi, 1894, 122 (Port Henderson, Jamaica).—DUNN, Auk, xii, 1895, 394 (Mud Lake, Cook Co., Illinois, July 3 and 26, 1893, numerous).—ELLIOT, N. Am. Shore Birds, 1895, 86, pl. 23.—POYNTING, Eggs Brit. Birds, pt. iii, 1896, 155, pl. 34 (eggs).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 188 (Indefatigable, Charles, and Barrington islands, Galapagos); ix, 1902, 418 (Galapagos in migration).—BIGELOW, Auk, xix, 1902, 28 (coast n. e. Labrador, breeding).—HARTERT, Novit. Zool., ix, 1902, 307 (Bonaire,

- Dutch West Indies).—NICOLL, Ibis, 1904, 574 (St. Christopher, Greater Antilles, Feb.), 577 (Kingston, Jamaica).
- [*Tringa*] *minutilla* GRAY, Gen. Birds, iii, 1845, 579.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois); Man. N. Am. Birds, 1887, 158.—NELSON, Bull. Essex Inst., viii, 1876, 127, 153 (n. e. Illinois, common migrant; said to breed).—NEWTON (A. and E.), Handb. Jamaica, 1881, 116.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos Islands).
- [*Tringa*] *minutilla* GRAY, Hand-list, iii, 1871, 50, no. 10,317.—COUES, Key N. Am. Birds, 1872, 254.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.—CORY, List Birds West Ind., revised ed., 1886, 26.
- Tringa minuta minutilla* SEEBOHM, Hist. Brit. Birds, iii, 1885, 205, in text.
- Tringa subminuta minutilla* SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxv, 439.
- Pelidna minutilla* GOULD, Zool. Voy. 'Beagle,' iii (Birds), 1841, 131 (Galapagos Islands; crit.).
- Actodromas minutilla* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 190 (Labrador), 230 (crit.; nomencl.; habits); xviii, 1866, 97 (Fort Whipple, Arizona); xxiii, 1871, 30 (Fort Macon, North Carolina); Ibis, 1866, 269 (s. California); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 294 (Essex Co., Massachusetts and Spanishtown, Jamaica); Check List, 2nd ed., 1882, no. 614.—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—VERRILL, Proc. Bost. Soc. N. H., ix, 1862, 138 (Anticosti Island); Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica, whole year).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Mass.).—McILWRAITH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (Tehuantepec, Oaxaca, Oct.).—GUNDLACH, Repert. Físico-Nat. Cuba, i, 1866, 357; Journ. für Orn., 1875, 328 (Cuba); Anal. Soc. Esp. Hist. Nat., vi, 1878, 376 (Porto Rico).—HENSEHAW, Ann. Lyc. N. Y., xi, 1874, 11 (Provo and Ogden, Utah); Zool. Expl. W. of 100th Merid., 1875, 455 (Utah Lake, July; Apache, Arizona, Aug.).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 533); Nom. N. Am. Birds, 1881, no. 538; Proc. U. S. Nat. Mus., v, 1883, 534, footnote (Todos Santos, Lower California).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 164 (Belkoffsky, Alaska, and Plover Bay, Siberia).—NELSON, Cruise 'Corwin' in 1881 (1883), 88 (Norton Sound, Alaska, rare).—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Labrador).—BAIRD, BREWER and RIDGWAY, Water Birds N. Am., i, 1884, 236.—DREW, Auk, ii, 1885, 18 (Colorado).—TURNER, Proc. U. S. Nat. Mus., vii, 1885, 247 (Labrador, breeding).
- [*Actodromas*] *minutilla* GUNDLACH, Journ. für Orn., 1874, 313 (Porto Rico); 1878, 161 (Porto Rico).—STAHL, Ornith., vol. 3, 1887, 452 (Porto Rico).
- [*Actodromas*] *minutilla* GUNDLACH, Journ. für Orn., 1878, 188 (Porto Rico).—COUES, Key, N. Am. Birds, 2nd ed., 1884, 625.
- [*Actodromus*] *minutilla* BONAPARTE, Compt. Rend., xliii, 1856, 596.
- Actodromus minutilla* DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292 (Nulato, Alaska; mouth of Yukon River, breeding; Sitka).—STEVENSON, Rep. U. S. Geol. Surv. Terr., 1871, 466 (North Platte and Little Sandy, Wyoming).—MERRIAM, Rep. U. S. Geol. Surv. Terr. for 1872 (1873), 714 (Utah).
- [*Limonites*] *minutillus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 329.
- Limonites minutilla* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 548, 767.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 387.—LOWE, Ibis, 1907, 553

- (Margarita Island, Venezuela, Jan.).—HANTZSCH, Journ. für Orn., 1908, 357 (n. e. Labrador).—REISER, Denkw. Met.-Nat. Kaiserl. Ak. Wiss. Wien., 1910, 95 (Joazeiro, n. e. Brasil).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. 1, 1913, 56 (Abingdon, Albemarle, Barrington, Charles, Indefatigable, and James Islands Galapagos).
- Pisobia minutilla* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 367; Check List, 3rd ed., 1910, 115.—BERLEPSCH, Novit. Zool., xv, nov., 1908, 308 (Cayenne).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 422 (Chomez, Costa Rica, Jan.; La Estrella de Cartago, Nov. 5).—CLARK (A. H.), West Ind. Bull., xi, no. 3, 1911, 183 (Santa Lucia).—ARNOLD, Auk, xxix, 1912, 76 (Newfoundland, breeding).—MOORE, Auk, xxix, 1912, 210 [223], pls. 13, 14 (Magdalen Islands, breeding; habits).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 383 (Demarcation Point, Alaska, June 5).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 44 (Porto Rico in winter).—BARTSCH, Proc. Biol. Soc., Wash., xxx, 1917, 132 (Haiti).
- [*Tringa*] *minutella* DENNY, Proc. Zool. Soc. Lond., 1847, 39 (United States; Jamaica).
- Tringa wilsonii* NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 121 (based on *Tringa pusilla* Wilson, Am. Orn., v, 32, pl. 37, fig. 4; type now in coll. Acad. Nat. Sci., Phila., no. 4138).—TOWNSEND (J. K.), Jour. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 721; Proc. Ac. Nat. Sci. Phila., xiii, 1860, 196 (Cartagena, Colombia).—BAIRD, Cat. N. Am. Birds, 1859, no. 532.—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—SCLATER and SALVIN, Ibis, 1859, 229 (Guatemala).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 334 (Lion Hill, Panama).—BLAKISTON, Ibis, 1863, 132 (Mackenzie River).—BUTCHER, Proc. Ac. Nat. Sci. Phila., xx, 1868, 150 (Laredo, Texas).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—PELZELN, Orn. Bras., 1870, 311 (Cuyaba, April).—TRUFFE, Proc. Bost. Soc. N. H., xv, 1873, 241 (southern Iowa).
- [*Tringa*] *wilsonii* PELZELN, Orn. Bras., 1870, 457.
- Tringa wilsoni* BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 121 (Bahamas, April).—SCLATER, Proc. Zool. Soc. Lond., 1860, 253 (Orizaba, Vera Cruz); 1861, 80 (Jamaica); 1864, 178 (City of Mexico).—ALBRECHT, Journ. für Orn., 1861, 56 (Bahamas).—DRESSER, Ibis, 1866, 37 (s. Texas).—BROWN, Ibis, 1868, 425 (Vancouver Island).
- [*Actodromas*] *wilsoni* BONAPARTE, Compt. Rend., xliii, 1856, 596.
- Actodromas wilsoni* SCLATER, Ibis, 1862, 277 (Europe).
- [*Pelidna* (*Actodromas*)] *wilsonii* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).
- Actodromas wilsonii* HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—NEWTON (A. and E.), Ibis, 1859, 258 (St. Croix).—GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).
- Tringa minuta* (not of Leisler, 1812) BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 319 (crit.).—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 385 (Nelson and Hayes Rivers, Keewatin).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 119.—WALKER, Ibis, 1860, 166 (Godhavn, Greenland, July).—HARTT, Am. Nat., i, 1867, 174 (Basin of Minas, Nova Scotia).
- Tringa temminckii* (not of Leisler, 1812) BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 319.—D'ORSIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 240.—(?) VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 29.—SCHALOW, Journ. für Orn., 1891, 259 (Sitka, Alaska).

Tringa fuscicollis (not of Vieillot) TSCHUDI, Fauna Peruana, Aves, 1845-6, 51 (according to Taczanowski, Proc. Zool. Soc. Lond., 1874, 561).

[*Pelidna*] *nana* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92 (*nomen nudum*; South America).

Tringa nana BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 375.

PISOBIA SUBMINUTA (Middendorff).

LONG-TOED STINT.

Somewhat resembling *P. minutilla*, but tarsi and toes much longer, the middle toe, without claw, longer than exposed culmen and as long as tarsus; shafts of all the primaries except the outermost wholly grayish brown; and, in summer adults, scapulars and interscapulars largely intermixed with cinnamon and pale buff.

Adults in summer.—Feathers of pileum, together with scapulars and interscapulars, broadly black medially or centrally, broadly edged or margined with light buffy brown or cinnamon, the black forming broad streaks on crown, large irregular spots or blotches on dorsal region; hindneck light grayish buffy broadly streaked with dusky; anterior lesser wing-coverts plain dark grayish brown, the remaining coverts the same centrally but broadly margined (especially at tips) with lighter grayish brown or pale grayish buff, the greater coverts without white tips; secondaries grayish brown indistinctly margined at tips with paler; tertials dusky broadly edged with light brownish buff or pale cinnamon; primaries and primary coverts dusky grayish brown, the latter with shafts wholly grayish brown, except the outermost, the shaft of which is wholly yellowish white; rump and median upper tail-coverts plain sooty black, the lateral upper tail-coverts white (nearly if not quite immaculate); middle pair of rectrices dusky narrowly edged with pale buffy brownish or whitish, the remaining rectrices light brownish gray narrowly margined terminally with whitish; sides of pileum (superciliary region) dull brownish white narrowly streaked with blackish, the supraloral, superciliary, and supra-auricular regions mostly unstreaked; lores more brownish, flecked with dusky, forming a more or less distinct streak between bill and eye; rictal, suborbital, auricular, and malar regions very pale brownish buffy narrowly streaked with dusky, this usually predominating on auricular region, which is more or less tinged with brown; chin and upper throat immaculate white or buffy white; lower throat, foreneck, chest, and sides of breast pale brownish buffy (nearly cartridge buff) more or less distinctly streaked with dusky grayish brown; rest of under parts, including axillars and posterior under wing-coverts, immaculate white; bill blackish, the base of mandible more brownish; iris dark brown; legs and feet dark brownish (grayish yellow in life).^a

^aAccording to Dr. Leonhard Stejneger.

Winter plumage.—Above deep brownish gray or grayish brown (between drab and hair brown), the feathers broadly blackish medially or centrally, producing broad streaks on pileum and large spots on scapulars and interscapulars; foreneck and chest pale brownish gray or grayish brown, narrowly and indistinctly streaked with dusky; otherwise as in summer.

Young.—Much like summer adults, but whitish terminal margins to scapulars more distinct and continuous, pale margins to wing-coverts less sharply defined, and texture of plumage distinctive (softer and more lax).

Adult male.—Wing, 87–93 (89.2); tail, 35.5–39 (37.1); exposed culmen, 16.5–18 (17.1); tarsus, 20.5–21 (20.9); middle toe, 19–20.5 (19.9).^a

Adult female.—Wing, 89.5–90.5 (92.2); tail, 35–41 (38.1); exposed culmen, 17–19.5 (18.2); tarsus, 21–22.5 (21.7); middle toe, 20–21.5 (20.6).^a

Breeding in eastern Siberia, Kamchatka (including Commander Islands), and Kuril Islands; migrating southward through China, Japan, etc., to Philippine Islands, Malay Peninsula, Burma, Ceylon, Borneo, Java, Celebes, northern Australia, etc.; accidental on Otter Island, Pribilof group, Alaska (1 spec., June 8, 1885).

Tringa subminuta MIDDENDORFF, Reis. Sibir., Zool., 1851, 222 (west slope Stanovoi Mountains, Siberia, May 19; Uda River, June 30).—SCHRENCK, Reis. Amurland, i, 1860, 424 (s. Amur, July).—SWINHOE, Ibis, 1863, 97 (northern China).—RADDE, Reis. Sibir., ii, Vögl., 1863, 333 (Tarei-Nor, May).—JERDON, Birds India, iii, 1864, 691.—DYBOWSKI and PARVEX, Journ. für Orn., 1868, 337 (Durasun).—TACZANOWSKI, Journ. für Orn., 1873, 103 (e. Siberia); Bull. Soc. Zool. France, i, 1876, 253 (s. e. Siberia); 1883, 339 (Kamchatka); Orn. Faun. Vost. Sibir., 1877, 56; Proc. Zool. Soc. Lond., 1888, 457 (Seoul, Korea); Mém. Ac. Imp. St. Petersb., (7), xxxix, 1893, 914 (eastern Siberia).—PRJEVALSKY, Rowley's Orn. Misc., iii, 1878, 90 (s. e. Mongolia).—LEGGE, Birds Ceylon, 1880, 889.—OATES, Handb. Birds Brit. Burma, ii, 1883, 391.—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, x, 1882, 112.—BLAKISTON, Amend. List Birds Japan, 1884, 21, 37 (Kuril Islands).—SEEBOHM, Ibis, 1884, 34 (China and Japan; crit.); Hist. Brit. Birds, iii, 1885, 204; Geog. Distr. Charadriidae, 1887, pp. xxv, 438; Birds Japanese Emp., 1890, 338 (Yokohama; Hakodate; Kuril Islands).—BOGDANOW, Consp. Av. Imp. Ross., 1884, 92.—NIKOLSKI, Ile Sakhal., 1886, 261.—SHARPE, Ibis, 1890, 143, 287 (Abai, n. Borneo).—STYAN, Ibis, 1891, 330, 506 (lower Yangtse River, in migration); 1894, 335 (Shanghai).—HARTERT, Kat. Vogelsamml. Senckenb. Mus., 1891, 221 (Java); Novit. Zool., xiii, 1916, 92 (crit. on the name).

[*Actodromus*] *subminuta* BONAPARTE, Compt. Rend., xliii, 1856, 596.

Erolia subminuta HARTERT, Novit. Zool., xxiii, 1916, 93.

Erolia minutilla subminuta HARTERT, Novit. Zool., xxiii, 1916, 93 (crit. on the name).

Actodromas subminutus STEJNEGER, Proc. U. S. Nat. Mus., vi, 1883, 71 (Bering Island).

^a Six specimens.

- [*Limonites*] *damacensis* SHARPE, Hand-list, i, 1899, 163.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 72.
- Tringa minuta* (not of Leisler, 1812) BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 270 (Calcutta).—LEGGE, Ibis, 1874, 29 (Ceylon).
- Tringa damacensis* (not *Totanus damacensis* Horsfield) SWINHOE, Ibis, 1863, 413 (Formosa); 1875, 455 (Hakodadi, Japan); Proc. Zool. Soc. Lond., 1863, 316 (Siberia; Amoy; Calcutta); 1871, 409 (China).—SCHLEGEL, Mus. Pays-Bas, v. no. 27 (Scolopaces), 1864, 48.—TACZANOWSKI, Journ. für Orn., 1873, 103 (e. Siberia).—HUME, Stray Feath., ii, 1874, 482 (Yea); iii, 1875, 482 (Pegu).—BLAKISTON and PRYER, Ibis, 1878, 221 (Yezo, Japan; Kamchatka).—SEEBOHM, Ibis, 1879, 26 (s. Yezo; crit.).—RIDGWAY, Auk, iii, 1886, 275 (Otter Island, Alaska, 1 spec., June 8, 1885).—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 100 (Otter Island).—CHAPMAN, Auk, v, 1888, 394 (Otter Island).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. to Check List, 1889, 7; Abridged Check List, 1889, and Check List, 2d ed., 1895, no. 242.1.—ELLIOT, N. Am. Shore Birds, 1895, 87, pl. 24.
- [*Tringa*] *damacensis* HUME, Stray Feath., i, 1873, 242 (crit.).—RIDGWAY, Man. N. Am. Birds, 1887, 158.
- Actodromas damacensis* STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 116 (Bering Island, Kamchatka, May, June, Aug.; synonymy, crit., etc.), 316 (Kamchatka); Proc. U. S. Nat. Mus., vi, 1885, 71 (Bering Island); xxi, 1898, 230 (Kuril Islands).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 238 (Gichiga, n. e. Siberia, June, Aug.).
- Tringa (Actodromas) damacensis* RIDGWAY, Man. N. Am. Birds, 1887, 593.
- Pisobia damacensis* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 367; Check List, 3d ed., 1910, 115.—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 50 (Bering Island).—MATHEWS, Birds Australia, iii, pt. 3, 1913, 251, pls. [159, 160].—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 383 (Cape Zhipanov and Copper Island, Kamchatka, May).
- Limonites damacensis* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 553, 767.
- Tringa salina* (not of Pallas, 1826) DRESSER, Birds Europe, vii, 1871, 4, under *T. minuta*.—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 474 (Ceylon).—BLYTH and WALDEN, Birds Burma, 1875, 156 (Rangoon; Tonghoo).—SCHALOW, Journ. für Orn., 1891, 260 (Kamchatka; "versus America").
- Actodromas salina* SALVADORI, Ucc. Borneo, 1874, 324.
- Tringa ruficollis* (not of Pallas, 1826) WALDEN, Trans. Zool. Soc. Lond., ix, 1875, 234 (Luzon, Philippines, Feb.).—DAVID and OUSTALET, Ois. Chine, 1877, 472, part.—HUME and DAVISON, Stray Feath., vi, 1878, 461 (Thatone; Yea).—BALL, Stray Feath., vii, 1878, 228 (Ganges; Godaveri).—HUME, Stray Feath., vii, 1878, 487 (Calcutta); viii, 1879, 113, 161 (Tonka).—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, viii, 1880, 195 (Japan).
- [*Tringa*] *ruficollis* SEEBOHM, Ibis, 1879, 26 (South Yezo, Japan; crit.).

Genus EURYNORHYNCHUS Nilsson.

- Eurynorhynchus* NILSSON, Orn. Suecica, ii, 1821 (1819?), 29. (Type, by monotypy, *E. griseus* Nilsson = *Platalea pygmaea* Linnaeus.)
- Curnorhynchus* (emendation) TEMMINCK, Man. d'Orn., 2d ed., i, 1820, civ.
- Erynorhynchus* (emendation) FITZINGER, Sitzungsber. Akad. Wien, li, i, 1865, 302.
- Eurhinorhynchus* (emendation) BLYTH, Ann. and Mag. Nat. Hist., xiii, 1844, 178.
- Eurhinorhynchus* (emendation) SHARPE, Zool. Record, xix, 1884, Aves, 44.
- Eurhynorhynchus* (emendation) SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 535.
- Eurinorhynchus* (emendation) GRIFFITH, in Cuvier, Animal Kingdom, viii, 1829, 531.

- Eurynorhynchus* (emendation) CUVIER, Règne Animal, 2d ed., i, 1829, 528.
Eurynorhynchus (emendation) HARTING, Ibis, 1869, 427.
Eurynorinchus (emendation) HARTING, Ibis, 1869, 427.
Eurynorincus (emendation) HARTING, Ibis, 1869, 427.
Eurynoryncus (emendation) HARTING, Ibis, 1869, 427.
Eurynoryncus (emendation) PEARSON, Asiat. Researches, xix, 1836, 69.
Eurhinorhynchus (emendation) SHARPE, Zool. Record, xix, 1884, Aves, 2.
Eurrhinorhynchus (emendation) [POLIAKOW?] Messenger Orn., vi, 1915, 260.
Eurynorhinchus (emendation) LAFRESNAYE, Rev. Zool., v, 1842, 402.
Eurnorhynchus (emendation) SAUNDERS, Zool. Record, xiv, 1879, Aves, 1, 55.
Eurynoryncus (emendation) REICHENBACH, Av. Syst., 1853, 24, xiii.
Euryrhynchus (emendation) NITZSCH, Observ. Avium Art. Carot. Comm., 1829, 18.
Urynoryncus (emendation) PEARSON, Journ. Asiat. Soc. Bengal, v, 1836, 253.

Small Erolinæ (wing 94–102 mm.) resembling *Pisobia* but with bill much broader than deep and with its terminal portion broadly expanded.

Bill about as long as head, the exposed culmen equal in length to tarsus, between one-fourth and one-fifth as long as wing, much broader than deep, the distal third (approximately) expanded into a broad, somewhat rhomboid or kite-shaped paddle or shovel, whose width is equal to about half the length of exposed culmen; nasal groove rather broad throughout, extending to base of expanded tip of maxilla; mandible with a much narrower and less distinct lateral groove; nostril sub-basal, narrowly oval or elliptical, its upper edge somewhat operculate; malar antia obliquely truncate, slightly anterior to loreal antia, the mental antia broadly rounded, slightly anterior to malar antia. Wing rather long, pointed, the longest primary (outermost) exceeding distal secondaries by more than one-half the length of wing, and greatly exceeding the elongated, tapering, but not acuminate tertials. Tail more than two-fifths as long as wing, distinctly double-emarginate, the middle pair of rectrices longer than the lateral pair, subacuminate; rectrices 12. Tarsus about as long as exposed culmen, less than one-fifth as long as wing, continuously scutellate anteriorly and posteriorly; naked portion of tibia about as long as first two phalanges of middle toe, non-scutellate or with scutella indistinct; middle toe, with claw, shorter than tarsus, the outer toe slightly shorter, the inner still shorter; claws narrow, rather long, slightly curved; edge of toes finely serrate; no webs between anterior toes.

Coloration.—Not distinctive, resembling that of *Pisobia ruficollis*.

Range.—Eastern Asia. (Monotypic.)

EURYNORHYNCHUS PYGMEUS (Linnaeus.)

SPOON-BILLED SANDPIPER.

Adult male in summer.—Pileum dull cinnamon-rufous or hazel, (nearly mikado brown or light russet), more or less deep, broadly streaked with black; rest of head, together with throat and foreneck,

plain cinnamon-rufous or hazel (more or less deep), fading into whitish or pale reddish buffy on chin (sometimes all round base of bill) and into paler cinnamon-rufous or rufous-whitish on chest, the latter (sometimes lower foreneck also) more or less streaked or spotted with dusky; rest of under parts, including axillars and most of under wing-coverts, white, the breast (at least laterally) and sides more or less streaked and spotted with dusky; hindneck light grayish brown, more or less tinged with cinnamon-rufous, and streaked with blackish or dusky; scapulars and interscapulars black centrally, margined with cinnamon-rufous and dull buffy whitish; wing-coverts brownish gray, darker centrally and margined indistinctly with paler, the greater coverts tipped with white; primary coverts dusky, the proximal ones tipped with white; primaries grayish brown, becoming darker distally, the proximal quills narrowly edged with whitish, the shafts of all largely white; rump deep brownish gray, the feathers narrowly margined with whitish; median upper tail-coverts and middle pair of rectrices dusky, the latter with outer webs narrowly edged with white, the remaining rectrices pale brownish gray, very narrowly and indistinctly edged with white; lateral upper tail-coverts white; bill and feet dull black (in dried skins); iris dark brown

Adult female in summer.—Similar to the male and not always distinguishable, but usually with the cinnamon-rufous of head, neck, etc., slightly less deep.

Winter plumage.—Above brownish gray or grayish brown, passing into white on forehead, the crown and occiput narrowly streaked or longitudinally flecked with dusky, the scapulars and interscapulars with narrow shaft-streaks of dusky and narrowly and indistinctly margined terminally with whitish; wing-coverts (except more anterior lesser coverts) with more distinct dusky shaft-streaks and broader dull whitish terminal margins; remiges, tail, etc., as in summer; under parts, including loreal and malar regions, immaculate white.

Young.—Crown and occiput light brown, broadly streaked with black; hindneck pale grayish, narrowly and indistinctly streaked with darker; interscapulars black, margined with light rusty brown and whitish, the scapulars similar but with broader and more whitish margins; wing-coverts dusky centrally, broadly but not sharply margined with pale buffy grayish or dull whitish, the greater coverts tipped with white; tertials dusky, margined with light rusty brown and white; primaries as in adults; rectrices (except middle pair) gray margined with white and with a median streak of white; forehead (to above eyes laterally), lores, rictal and malar regions, and entire under parts immaculate white, the sides of chest, however, with a few streaks of brownish gray or dusky, and lores with an indistinct streak of grayish brown, from eye to bill.

Downy young.—Forehead and sides of head pale buff to deep brownish buff, the former with a median streak of black, this, however, not extending to base of bill; a narrow loreal streak and an irregular auricular spot of blackish; crown and occiput mixed black and cinnamon-brown or light snuff brown, dotted laterally with pale buff or buffy whitish; back and rump mixed black and cinnamon-brown or light snuff brown, spangled with pale grayish buff or buffy whitish dots, the wings mostly light brown; under parts immaculate dull white, the chin, throat, and foreneck more or less tinged with buff, sometimes deeply buffy.

Adult male.—Wing, 94.5–100 (97.9); tail, 37–40.5 (38.6); exposed culmen, 20.5–23 (21.8); tarsus, 19–21 (20.5); middle toe, 15–17.5 (16.7).^a

Adult female.—Wing, 98–102 (100.7); tail, 37–41.5 (39.2); exposed culmen, 21.5–22 (21.8); tarsus, 19.5–20.5 (20.2); middle toe, 16.5–17 (16.8).^b

Breeding in northeastern Siberia (Wrangel Island; Pitelkaj; Providence Bay; Cape Serdze) migrating southward through southeastern Siberia, Japan, China, etc., to India (Elephant Point, Rangoon; Akyab; Tenasserim; Arakan coast); casual in Alaska (Choris Peninsula, summer of 1849; Point Barrow?).

[*Platalea*] *pygmaea* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 140 ("Surinam"; ex Mus. Adolphus Frederici, 1754c); ed. 12, i, 1766, 231.—HERMANN, Tab. Affinat. Anim., 1783, 135.—GMELIN, Syst. Nat., i, pt. ii, 1789, 615.—LATHAM, Index Orn., ii, 1790, 669.

Platalea pygmaea THUNBERG, K. Svensk. Vet.-Ak. Handl. Holm., 1816, 194–198, pl. 6.—STEPHENS, Shaw's Gen. Zool., xi, 1819, 645.—LAFRESNAYE, Rev. Zool., 1842, 492.—LILLJEBORG, Journ. für Orn., 1860, 299.—PELZELN, Journ. für Orn., 1860, 460.

Platalea pygmaea SONNINI and VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxi, 1819, 571.

Eurynorhynchus pygmaeus BONAPARTE, Geog. and Comp. List, 1838, 49.—HARTLAUB, Rev. Zool., 1841, 5; v, 1842, 36–38, pl. 2, fig. 1 (monogr.).—BLYTH, Journ. Asiat. Soc. Bengal, xxv, 1856, 445.—SCLATER, Proc. Zool. Soc. Lond., 1859, 201 (n. e. coast Asia?).—SWINHOE, Proc. Zool. Soc. Lond., 1871, 409 (Amoy, China).—BLAKISTON and PRYER, Ibis, 1872, 221 (Yezo, Japan).—GOULD, Birds Asia, vii, pt. 24, 1872, pl. 66 and text.—RIDGWAY, Bull. U. S. Nat. Mus., no. 24 (Nom. N. Am. Birds), 1881, 85, no. 542* (Point Barrow, Alaska).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 165 (Port Providence, Plover Bay, Siberia, Sept.).—BLAKISTON, Amend. List Birds Japan, 1884, 11.

Eurynorhynchus pygmaeus GRAY, Gen. Birds, iii, 1845, 580.

Eurynorhynchus pygmaeus BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 270.

[*Eurynorhynchus pygmaeus*] GRAY, Hand-list, iii, 1871, 51, no. 10323.

Eurynorhynchus pygmaeus HARTLAUB, Journ. für Orn., 1859, 325 (crit.), 328 (monogr.).

^a Five specimens.

^b Three specimens.

^c Linnæus's type was in the collection of the Museum of Upsala, Sweden, as late as 1860, according to Lilljeborg (Journ. für Orn., 1860, 299).

- Eurynorhynchus pygmaeus* [typog. error] NELSON, Cruise 'Corwin' in 1881 (1883), 87 (Plover Bay, Siberia).
- Eurynorhynchus pygmaeus* LAFRESNAYE, Rev. Zool., v, 1842, 402, pl. 2, fig. 1.
- Eurhinorhynchus pygmaeus* BLYTH, Ibis, 1867, 169 (summer plumage).—SWINHOE, Ibis, 1867, 234 (Amoy, China; crit.).
- Eurynorhynchus pygmaeus* HARTING, Ibis, 1869, 427, pl. 12 (Choris Peninsula, Alaska; monogr.); Proc. Zool. Soc. Lond., 1871, 110-123 (Choris Peninsula).—SWINHOE, Ibis, 1873, 425 (Shanghai, China; crit.); 1875, 455 (Hakodadi, Japan).—DAVID and OUSTALET, Ois. Chine, 1877, 474.—HUME and DAVISON, Stray Feath., vi, 1878, 462 (Tenasserim, India).—HUME, Stray Feath., viii, 1879, 113 (India).—NORDENSKJÖLD, Voy. 'Vega,' i, 1881, 43, 44 (Tapkan, n. e. Siberia, June).—OATES, Stray Feath., x, 1882, 240 (Arakan coast); Handb. Birds Brit. Burma, ii, 1883, 395.—COUES, Check List, 2nd ed., 1882, Addenda, p. 136, no. 884.—NELSON, Cruise 'Corwin' in 1881 (1883), pl. facing p. 87; Rep. N. H. Coll. Alaska, 1887, 112 (Choris Peninsula; Plover Bay and Tapkan, n. e. Siberia).—HARTLAUB, Ibis, 1884, 216 (Hainan).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 308.—AMERICAN ORNITHOLOGISTS' UNION, Check List N. Am. Birds, 1886 and 2nd ed., 1896, no. 245.—PALMÉN, Vega-Exped., Fogelf., 5 Bd., 1887, 326, pl. 4 (Pitlekaj, n. e. Siberia, June 19).—STEJNEGER, Proc. U. S. Nat. Mus., xv, 1892, 292 (Hakodate, Japan, fall).—RIDGWAY, Cat. Fish-eating Birds, 1893, 13 (Choris Peninsula).—ELLIOT, N. Am. Shore Birds, 1895, 95, pl. 27.
- [Eurynorhynchus] pygmaeus* COUES, Key N. Am. Birds, 2nd ed., 1884, 634.—RIDGWAY, Man. N. Am. Birds, 1887, 160.
- [Eurynorhynchus] pygmaeus* SHARPE, Hand-list, i, 1899, 163.
- Eurynorhynchus pygmaeus* SCHLEGEL, Rev. Crit., 1844, 97.—BOGDANOW, Conspectus Imp. Ross., fasc. i, 1884, 100.—TACZANOWSKI, Mém. Ac. Imp. Sci. St. Petersb., (7), xxxix, 1893, 928.
- Eurynorhynchus pygmaeus* ARMSTRONG, Stray Feath., iv, 1876, 343 (Elephant Point, Rangoon River, India).
- Eurynorhynchus pygmaeus* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 117.—THAYER, Auk, xxviii, 1911, 153-155, pls. 2, 3 (Wrangel Island, breeding; descr. nest and eggs).
- Eurhinorhynchus pygmaeus* SHARPE, Zool. Record, xix, for 1882 (1884), Aves, p. 2.
- Eurhinorhynchus pygmaeus* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 535 (Barrakouta Bay and Vladivostok, e. Siberia; mouth of Amur River; Yokohama and Hakodate, Japan; Shanghai and Swatow, China; Amherst, Tenasserim, Jan.; Elephant Point, Rangoon, Dec.; Akyab; Naap River, Pegu, Dec.).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 382 (Providence Bay and Cape Serdze, n. e. Siberia, breeding; habits).
- [Eurhinorhynchus] pygmaeus* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 72 (Sangor Island; Amoy, China; Japan).
- Tringa pygmaea* SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 27.—SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxvi, 440; Birds Japanese Emp., 1890, 338.
- Eurynorhynchus griseus* NILSSON, Orn. Suec., ii, 1821 (1819?), 29 (new name for *Platalea pygmaea* Linnaeus).
- Eurynorhynchus griseus* CUVIER, Règne Anim., i, 1829, 528.—LESSON, Traité d'Orn., 1831, 562.—HARTLAUB, Rev. Zool., 1841, 5.—JERDON, Birds India, iii, 1864, 693 (mouth of Ganges; coast of Chittagong and Arrakan; habits).
- Eurynorhynchus griseus* PEARSON, Asiat. Research., vol. 19, 1836, 69, pl. 9 (Edmonstone Island, northward of the centre of Sangur Sand).—PRINSEP, Journ. Asiat. Soc. Bengal, v, 1836, 127.
- Eurhinorhynchus griseus* BLYTH, Ann. and Mag. N. H., xiii, 1844, 178.

[Eurhinorhynchus] griseus NEWTON, Ibis, 1867, 235, footnote.

Eurhinorhynchus orientalis BLYTH, Ann. and Mag. N. H., xiii, 1844, 179 (Edmonstone Island, Bay of Bengal; based on Pearson, Asiat. Research, xix, 69).

Eurhinorhynchus orientalis SWINHOE, Ibis, 1867, 234 (crit.).

Eurhinorhynchus orientalis NEWTON, Ibis, 1867, 235, footnote.

Genus CALIDRIS Illiger.

Arenaria (not of Brisson, 1760) BECHSTEIN, Orn. Taschenb., ii, 1803, 462. (Type, by monotypy, *Tringa alba* Pallas.)

Calidris ILLIGER, Prodrum Orn., 1811, 249. (Type, by tautonymy and monotypy, *Charadrius calidris* Linnæus = *Tringa alba* Pallas.)

Crocethia^a BILLBERG, Synopsis Faunae Scand., i, pars. 2, 1828, tab. A and p. 132. (New name for *Calidris* Illiger.)

Medium-sized Erolinæ (wing 113–127) without any hallux. Bill about as long as head, straight, tapering in lateral profile, contracted in middle portion and slightly expanded terminally in vertical profile, the exposed culmen about as long as or slightly longer than tarsus, less than one-fifth as long as wing; nasal groove broad basally, gradually contracted terminally, extending about three-fourths the distance to tip of maxilla; mandible with a narrow and rather indistinct lateral groove; nostril sub-basal, longitudinally linear; malar antia much in advance of loreal antia (about on vertical line with posterior end of nostril), the mental antia much farther forward (on vertical line with middle of nostril); margin of frontal feathering forming a V-shaped line at base of culmen. Wing rather long, pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing, the elongated tapering tertials falling far short of tip of longest primary. Tail about two-fifths as long as wing, truncate or faintly double-emarginate, the middle pair of rectrices longest, subacuminate; rectrices 12. Tarsus nearly to quite as long as exposed culmen, about one-fourth longer than middle toe with claw, less than one-fifth as long as wing, continuously scutellate anteriorly and for upper two-thirds (approximately) posteriorly; bare portion of tibia about half as long as middle toe without claw, partly scutellate before and behind; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner; all the toes with rather wide, distinctly serrated, lateral margins, and both interdigital spaces completely cleft; hallux absent.

^a“... græcis vocis *κροκῆ* *λίτς* et *θεω* *κυρτο*, derivatum adoptavimus.” (Billberg.)

CALIDRIS ALBA (Pallas).

SANDERLING.

Adults in summer (sexes alike).—Pileum and hindneck pale rusty or cinnamon-rufous, intermixed, more or less,^a with grayish white, rather broadly streaked with black or dusky; scapulars and interscapulars black centrally, broadly margined with light cinnamon-rufous or rusty and very pale gray or grayish white;^a anterior lesser wing-coverts (especially near bend of wing) nearly uniform dusky, the remaining lesser coverts and middle coverts dusky centrally, broadly margined terminally with white, the greater coverts grayish brown or brownish gray, paler along edges and very broadly tipped with white; secondaries immaculate white for basal half or more, the distal portion dusky margined terminally with white; primary coverts and primaries dusky, the former rather broadly tipped with white (except the longer or distal ones), the proximal (inner) primaries with basal half or more of outer webs white; tertials brownish gray narrowly margined with white and with blackish shafts; rump and shorter (anterior) median upper tail-coverts brownish gray, the feathers darker centrally and broadly margined with pale gray and grayish white, the lateral upper tail-coverts immaculate white; longer (posterior) median upper tail-coverts and middle pair of rectrices dusky narrowly margined with pale gray or grayish white, the remaining rectrices light grayish brown narrowly margined with whitish, the outermost pair paler and with considerable of white on outer web; sides of head and neck pale rusty or cinnamon-rufous, more or less intermixed with white, streaked and flecked with dusky. the foreneck and chest similar, but spotted and barred rather than streaked; chin, throat, and under parts of body immaculate white, the sides of breast, however, suffused with rusty or cinnamonaceous and irregularly barred or transversely spotted with dusky; axillars and most of under wing-coverts immaculate white; bill, legs, and feet black; iris dark brown.

Winter plumage.—Above pale gray (the anterior lesser wing-coverts dusky) relieved by narrow shaft-streaks of dusky; under parts wholly immaculate white; otherwise as in summer.

Young.—Above pale grayish, spotted with blackish and whitish, the latter on tips of the feathers; otherwise like winter plumage, but chest more or less tinged with dull buff.

Adult male.—Wing, 113–124.5 (119.1); tail, 45–55 (50.3); exposed culmen, 23–26 (24.7); tarsus, 23–25 (23.7); middle toe, 14.5–16 (15.5).^b

^a Earlier in the season the pale gray or grayish white predominates, the rusty or cinnamon-rufous increasing toward midsummer.

^b Fourteen specimens.

Adult female.—Wing, 117–127 (123); tail, 47.5–54.5 (52.8); exposed culmen, 24–28 (26); tarsus, 23–26 (24.7); middle toe, 16–17 (16.1).^a

Breeding in Arctic districts of both hemispheres (Melville Island, Ellesmere Land, northern Mackenzie, Point Barrow, etc., in North America; Greenland; Iceland; Taimyr Peninsula, etc., Siberia); migrating southward, chiefly along seacoasts, as far as Galápagos Archipelago (Abingdon, Albemarle, Bindloe, Charles, Chatham, Hood, James, Jervis, and Seymour islands), Chile (Telcahuano; Cavanche; Coquimbo Bay), and Patagonia (Tambo Point) in America, to southern Africa, Aden, India, Burma, Ceylon, Borneo, Jaluit, Marshall Islands, Christmas Island, Hawaiian Islands, etc., in Eastern Hemisphere; in America wintering from coast of Virginia, Texas, Bermudas, California, etc., southward, casually as far northward as coasts of Massachusetts and Washington; in Eastern Hemisphere wintering from Mediterranean shores and Japan southward.

Tringa leucophaea PALLAS, in Vroeg's Cat., 1764, 32 (northern coast of Holland; not binomial here; see Stone, Auk, xxxix, 1912, 205–208).

Calidris leucophaea AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 367; Check List, 3d ed., 1910, 118.—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 382 (Demarcation Point, Alaska, Aug. 30).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 43 (Porto Rico, rare migrant).

Calidris leucophaea leucophaea MATHEWS, List of the Birds of Australia, 1913, 69.

Calidris leucophaea tridactyla MATHEWS, List of the Birds of Australia, 1913, 69.

Arenaria leucophaea MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, pl. [158] facing p. 241.

Arenaria leucophaea leucophaea MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 244 (Europe).

Tringa (alba) PALLAS, in Vroeg's Cat., 1764, (Adumbr.), 7, no. 320 (coast of North Sea).

[*Tringa*] *arenaria* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 251 (Europe).—GMELIN, Syst. Nat., i, pt. ii, 1789, 680.—TURTON, Syst. Nat., i, 1806, 410.

^aThirteen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Europe (Helgoland).....	120	47.5	23	23	15
Two adult males from Aldabra Island (near Madagascar).....	115.5	48	24.2	23.2	15
Ten adult males from coast of Virginia.....	119.4	51	24.9	23.8	15.6
One adult male from Alaska (Point Barrow).....	122	51	25	24.5	16
FEMALES.					
Two adult females from Europe.....	122.7	49.2	24	25	16
One adult female from Aldabra Island.....	126	52	26	23.5	16
Nine adult females from Atlantic coast of North America.....	122.7	52.3	26.3	24.8	16.1
One adult female from Lower California.....	124	54.5	26	25	16

- Tringa arenaria* TEMMINCK, Cat. Syst., 1807, 171.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 320.—AUDUBON, Orn. Biog., iii, 1835, 231, pl. 230; v, 1839, 582; Synopsis, 1839, 237; Birds Am., 8vo ed., v, 1842, 287, pl. 338.—SCHLEGEL, Rev. Crit., 1844, p. xc; Vog. Nederl., 1854, pl. 235; Dier. Nederl. Vog., 1861, pl. 25, figs. 1, 1 a; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 55.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—PUTNAM, Proc. Essex Inst., i, 1856, 217.—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermuda).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—MARCH, Proc. Ac. Nat. Sci. Phila., 1864, 67 (Jamaica).—SPERLING, Ibis, 1864, 287 (Missolonghi).—FRITSCH, Vög. Eur., 1870, pl. 33, fig. 7.—SHELLEY, Birds Egypt, 1872, 253.—SEEBOHM, Geog. Distr. Charadriidæ, 1887, 431; Ibis, 1888, 349 (Great Liakoff Island, Siberia); Birds Japanese Emp., 1890, 336.—WIGLESWORTH, Abh. K. Mus. Dresden, 1890-91, no. 6, p. 94.
- Calidris arenaria* ILLIGER, Prodr. Orn., 1811, 249.—TEMMINCK, Man. d'Orn., ii, 1820, 524; iv, 1840, 348.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 105; Obs. Nom. Wilson's Am. Orn., 1826, [188]; Geog. and Comp. List, 1838, 50.—WERNER, Atlas, Coureurs, 1827, pl. 8.—SWANSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 366.—BREHM, Vög. Deutschl., 1831, 673.—JARDINE, ed. Wilson's Am. Orn., iii, 1832, 31; Contr. Orn., 1849, 83 (Bermudas, autumn).—MÉNÉTRIÉS, Cat. Rais. Caucas., 1832, 52 (Baku).—NAUMANN, Vög. Deutschl., vii, 1834, 353, pl. 182.—GOULD, Proc. Zool. Soc. Lond., 1834, 15 (North America; crit.); Birds Great Brit., iv, 1873, pl. 66 and text.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 4.—PEABODY, Rep. Orn. Mass., 1839, 357.—CRESPON, Orn. Gard, 1840, 352.—NORDMANN, in Démid., Voy. Russ. Mérid., iii, 1840, 238 (Odessa; Crimea); Journ. für Orn., 1864, 374 (Lapland).—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 65; Hist. Brit. Birds, iv, 1852, 237.—SELYS-LONGCHAMPS, Faune Belge, 1842, 124.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 107; List Brit. Birds, 1863, 171.—RÜPPELL, Syst. Ueb., 1845, 126.—FRASER, Proc. Zool. Soc. Lond., 1844, 157 (Chile).—YARRELL, Hist. Brit. Birds, 2nd ed., ii, 1845, 491; 3rd ed., ii, 1856, 506.—GOSSE, Birds Jamaica, 1847, 354.—THOMPSON, Birds Ireland, ii, 1849, 121.—HURDIS, Jardine's Contr. Orn., 1850, 19 (Bermudas, winter).—KJÆRRBÖLLING, Naumannia, i, 1850, 46 (Denmark); Orn. Dan., 1852, pl. 34, fig. 1, Suppl., pl. 15, figs. 4, 5.—REICHENBACH, Handb., Grallatores, 1851, pl. 72, figs. 605-607.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—LILLJEBORG, Naumannia, ii, 1852, 124 (Tromsø, Norway).—THOMPSON, Nat. Hist. Vermont, 1853, 102, fig.—PASSLER, Journ. für Orn., 1853, 242 (Lapland).—FRITSCH, Journ. für Orn., 1854, 280 (Bohemia); 1871, 387 (Bohemia).—HARTLAUB, Journ. für Orn., 1854, 298 (w. Africa); 1855, 361 (Gold Coast); Orn. West-Afrika, 1857, 238 (Gambia; Gold Coast); Vög. Madagasc., 1877, 333.—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (Europe and America); vii, 1860, 308 (Cuba); xvii, 1875, 446 (New England).—REINHARDT, Journ. für Orn., 1854, 441 (Greenland); Ibis, 1861, 11 (Disko Island, Greenland, breeding).—BOLLE, Journ. für Orn., 1855, 175 (Canary Islands).—MÜLLER, Journ. für Orn., 1856, 229 (Provence).—CABANIS, Journ. für Orn., 1856, 422 (Cuba).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 371.—CASSIN, Proc. Ac. Nat. Sci., ix, 1857, 31 (Muni River, w. Africa); xii, 1860, 195 (Darlen); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 723.—SCLATER, Proc. Zool. Soc. Lond., 1857, 230 (Santecomapam, Vera Cruz); 1859, 369 (Jalapa, Vera Cruz); 1867, 339 (Chile).—BAIRD, Cat. N. Am. Birds, 1859, no. 534; Proc. Ac. Nat. Sci. Phila., xi, 1859, 306 (Cape San Lucas).—NEWTON (A. and E.), Ibis, 1859, 256 (St. Croix).—HEUGLIN, Ibis, 1859, 348 (Zeila, Red Sea; Berbera, Sept. to Nov.); Orn. N.-O.-Afrika, ii, 1871, 1196 (April, May); Journ. für Orn., 1872, 63 (Novaya Zemlya; Waigats Island, Sept.), 119 (Waigats).—SCLATER and

SALVIN, Ibis, 1859, 229 (Guatemala); Proc. Zool. Soc. Lond., 1868, 176 (Valley of Tambo, w. Peru), 570 (w. Peru); 1870, 323 (Bindloe Island, Galapagos).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—MARTENS, Journ. für Orn., 1859, 218 (Bermudas).—POWYS, Ibis, 1860, 343 (Corfu).—SWINHOE, Ibis, 1860, 359 (Amoy, China); 1861, 342 (n. China); 1863, 315 (China); 1871, 408 (China).—SUNDEVALL, Svensk. Fogl., 1860, pl. 76, fig. 1.—LINDERMAYER, Vög. Griechenl., 1860, 141.—BOARDMAN, Proc. Bost. Soc. Nat. Hist., ix, 1862, 129 (Calais, Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—GUNDLACH, Journ. für Orn., 1862, 87 (Cuba; crit.); 1875, 329 (Cuba); 1868, 161, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 357; Anal. Soc. Esp. Hist. Nat., vii, 1878, 376 (Porto Rico).—BLAKISTON, Ibis, 1863, 132 (Mackenzie River).—ROCHE and NEWTON (E.), Ibis, 1863, 169 (Madagascar?).—NEWTON (A.), in Baring-Gould's Iceland, 1863, 413 (breeding); Proc. Zool. Soc. Lond., 1871, 56, pl. 4, fig. 2 (egg), 546 (descr. eggs); Ibis, 1892, Addenda to July No., pp. 1-5 (geog. range); Rec. Austral. Mus., ii, 1892, 22 (Australia).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—TRISTRAM, Proc. Zool. Soc. Lond., 1864, 377 (Grimsey Island, Iceland; descr. eggs), 452 (Palestine); Fauna and Flora Palestine, 1884, 133 (coast in winter).—SALVIN, Ibis, 1864, 386 (Brit. Honduras); 1886, 179 (Brit. Guiana); 1889, 379 (Cozumel Island); Trans. Zool. Soc. Lond., ix, 1876, 503 (Bindloe Island, Galapagos); Proc. Zool. Soc. Lond., 1883, 429 (Coquimbo Bay, Chile).—MONTEIRO, Proc. Zool. Soc. Lond., 1865, 95 (Benguela).—GURNEY, Ibis, 1865, 272 (Natal); in Andersson's Birds Damara Land, 1872, 311.—SALVADORI, Journ. für Orn., 1865, 288 (Sardinia); Faun. Ital., Ucc., 1871, 211; Ucc. Borneo, 1874, 322; Ann. Mus. Genova, (2), i, 1884, 223 (Lake Cialalaka, Italy, Nov.); Elench. Ucc. Ital., 1887, 217.—MCILWRAITH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City); ix, 1869, 210 (Merida, Yucatan); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo, Oaxaca, Aug., Feb.); Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent), 450 (Guadeloupe).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 188.—LAYARD, Birds South Africa, 1867, 332 (Cape Colony).—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 303.—SMITH, Ibis, 1868, 455 (Portugal).—DYBOWSKI and PARVEZ, Journ. für Orn., 1868, 338 (Darasun).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 293 (New England); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 31 (Fort Macon, North Carolina); Check List, 1873, no. 427; 2nd ed., 1882, no. 627; Birds Northwest, 1874, 492 (synonymy).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 207 (Madeira).—FINSCH, Journ. für Orn., 1869, 337 (w. Africa); Abh. nat. Verh. Bremen, iii, 1872, 65 (Alaska); Verh. z.-b. Ges. Wien, xxix, 1879, 253 (tundra of Schtschutsja, Siberia); Ibis, 1880, 331 (Marshall Islands); Vög. der Sudsee, 1884, 56 (Jaluit, Oct.).—DROSTE, Journ. für Orn., 1869, 344 (Faroe Islands).—ALLEN, Am. Nat., iii, 1869, 638 (Ipswich, Mass., June); Bull. Am. Mus. N. H., ii, 1889, 109 (lower Rio Beni, Bolivia, Aug.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292 (St. Michaels, etc., Alaska, May to Oct.).—PELZELN, Orn. Bras., 1870, 312, 458 (Ypanema; Cajutuba, Nov.).—ELWES and BUCKLEY, Ibis, 1870, 331 (Turkey).—FINSCH and HARTLAUB, Vög. Ostafrika, 1870, 767 (Mozambique).—HOMER, Journ. für Orn., 1870, 424 (e. Siberia).—GRAY (R.), Birds West Scotland, 1871, 261.—SAUNDERS, Ibis, 1871, 388 (s. Spain); ed. Yarrell's Brit. Birds, iii, 1883, 420; Man. Brit. Birds, 1889, 583.—HARTING, Handb. Brit. Birds, 1872, 49.—BROOKE, Ibis, 1873, 340 (Sardinia).—LLOYD, Ibis, 1873, 417 (Kattiawar).—SEVERTZOV, Turkest. Jevotn., 1873, 69; Ibis, 1883, 52 (Pamir range).—TACZANOWSKI, Journ. für Orn., 1873, 102 (e. Siberia); Proc. ol. Soc. Lond., 1874, 560 (Chorillos, Peru); Orn. du Pérou, iii, 1886, 353;

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- Pass, s. Florida, migrating northward May 24); vii, 1890, 308 (Dry Tortugas, spring).—GREEN, Auk, iv, 1887, 350 (Lake Onondaga, Aug. 12, 1887).—PALMÉN, Vega-Expéd., Fogelf., 1887, 307, pl. 3.—WARREN, Birds Penn., 1888, 236.—COOKE, Bird Migr. Miss. Val., 1888, 94.—SCLATER and HUDSON, Argentine Orn., ii, 1889, 186.—LILFORD, Ibis, 1889, 341 (Cyprus, Oct.); Col. Figs. Brit. Birds, pt. xxi, 1892.—MACKAY, Auk, vii, 1890, 294 (Muskeget Island, Massachusetts, March, a few wintering).—WALTER, Journ. für Orn., 1890, 248 (e. Spitzbergen).—CLARKE (W. E.), Zoologist, 1890, 13 (Jan Mayen Land); Ibis, 1898, 261 (Franz Josef Land); 1899, 47 (King Ludwig Islands, e. Spitzbergen).—KOENIG, Journ. für Orn., 1890, 314 (Teneriffe); 1893, 91 (Tunis, Algeria).—PALMER (W.), Proc. U. S. Nat. Mus., xiii, 1890, 260 (Newfoundland, Aug.).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 501 (Manitoba).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 427 (near Franklin Bay, Mackenzie).—OUSTALET, Miss. Sci. Cap Horn, Ois., 1891, 296.—HAGERUP, Birds Greenland, 1891, 55.—STYAN, Ibis, 1891, 331, 506 (lower Yangtse River, China); 1893, 437 (Hainan).—MADARÁSZ, Erläut. Ausst. Ungar. Vogelf., 1891, 110.—FRIVALDSKY, Av. Hung., 1891, 145.—BUCKLEY and HARVEY-BROWN, Vertebr. Fauna Orkney Is., 1891, 219.—SCHALOW, Journ. für Orn., 1891, 259 (Alaska); Zool. Jahrb., Suppl. iv, Heft. 3, 1898, 659 (Cavanche, Chile, May).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos, Peru).—WILSON and EVANS, Aves Hawaiianse, pt. iii, 1892, 153.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 50.—BARNES, Ibis, 1893, 171 (Aden).—MEADE-WALDO, Ibis, 1893, 205 (Canary Islands).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 77 (Trinidad); viii, 1896, 1-8 (changes of plumage).—COOKE, Auk, xv, 1894, 183 (Fort Collins, Colorado); Birds Col., 1897, 66 (Loveland, Sept. 24 and 30, 1889, and May 12, 1890; near Denver, May 16, 1888; near Fort Collins); Bull. 44, Col. Agric. Exp. Sta., 1898, 158 (near Colorado Springs, several).—ELLIOT, N. Am. Shore Birds, 1895, 104, pl. 30.—PEARSON (H. J. and C. E.), Ibis, 1895, 248 (Iceland).—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 175, pl. 37 (eggs).—KOENIGSWALD, Journ. für Orn., 1896, 395 (São Paulo, s. Brazil).—POPHAM, Ibis, 1897, 104 (Golchika, Yenesei R., Siberia); 1898, 517 (Kuzkin I., Yenesei R.).—TREVOR-BATTE, Ibis, 1897, 590 (Spitzbergen).—HOLMBERG, Segundo censo Argentina, 1898, 569.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 187 (Albemarle, Chatham, Hood, Abingdon, Jervis, and Bindloe islands, Galapagos); ix, 1892, 418 (Galapagos in migration).—IHERING, Revista Mus. Paulista, iii, 1899, 437 (São Paulo, s. Brazil).—GRANT, Novit. Zool., vii, 1900, 269 (s. Arabia).—HENSHAW, Auk, xviii, 1901, 202 (Kau coast and Hilo beach, Hawaii, Oct.); Birds Hawaiian Islands, 1902, 93 (Kauai, several; Kaalululu, Kau, Sept., Oct.; Hilo, Hawaii, Oct.).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 385.—DRESSER, Ibis, 1904, 230 (Taimyr Peninsula, Siberia, breeding; descr. eggs).—HARTERT and GRANT, Novit. Zool., xii, 1905, 104 (San Miguel, Azores).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (San Vicente, Buenos Aires, Argentina, Jan.).—REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, 1910, 95 (coast Piauihy, n. e. Brazil).—GRANT (C. H. B.), Ibis, 1911, 469 (Cape San Antonio and Tuyu, Argentina, Dec., Jan.).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, 1913, 56 (Abingdon, Albemarle, Bindloe, Charles, Chatham, Hood, James, Jervis, and Seymour Islands, Galapagos Archipelago).—*[Calidris] arenaria* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxv, 214.—GRAY, Gen. Birds, iii, 1845, 581.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 758.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois); Man. N. Am. Birds, 1887, 162.—NELSON, Bull. Essex Inst., viii, 1876, 128 (Cook and Lake Counties, n. e. Illinois, abundant migrant).—COUES, Key N. Am. Birds, 2nd ed., 1884, 633.—ROTHSCHILD and HARTERT, Novit. Zool.,

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- Arenaria arenaria* DABBENE, Orn. Argentina, July 16, 1910, 219 (Patagonia; Misiones; Buenos Aires).
- [*Charadrius*] *calidris* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 255 (Europe; ex *Calidris grisea minor* BRISSON, Orn., v, 1760, 236, pl. 20, fig. 2).—GMELIN, Syst. Nat., i, pt. ii, 1789, 689.—LATHAM, Index Orn., ii, 1790, 741.—TURTON, Syst. Nat., i, 1806, 415.
- [*Charadrius*] *calidris* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 105 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [188].
- Charadrius calidris* WILSON, Am. Orn., vii, 1813, 68, pl. 59, fig. 4.—YARRELL, Hist. Brit. Birds, ii, 1843, 427.
- Arenaria calidris* MEYER and WOLF, Taschenb., ii, 1810, 326, fig.—GOULD, Birds Europe, iv, 1837, pl. 335 and text.—DEGLAND, Ois. Eur., 1849, 240.—LEMBEYE, Aves de la Isla de Cuba, 1850, 101.—WRIGHT, Ibis, 1864, 148 (Malta).
- Trynga calidris* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 202.
- Trynga calidris* KAUP, Thier., ii, pt. i, 1836, 318.
- [*Charadrius*] *rubidus* GMELIN, Syst., Nat., i, pt. ii, 1789, 688 (Hudson Strait; based on *Ruddy Plover* Pennant, Arctic Zool., ii, 1785, 486; Latham, Gen. Synopsis Birds, iii, pt. i, 1785, 195).—LATHAM, Index Orn., ii, 1790, 740.—TURTON, Syst. Nat., i, 1806, 415.
- Charadrius rubidus* WILSON, Am. Orn., vii, 1813, 129, pl. 63, fig. 3.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 105 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [188].
- Calidris rubidus* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxx, 1819, 127.
- Arenaria leucophæa rubida* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 244 (America).
- [*arenaria*] *vulgaris* BECHSTEIN, Orn. Taschenb., 1803, 462 a, pl. (new name for *Tringa arenaria* Linnæus).—TEMMINCK, Man. d'Orn., 1815, 334.
- Arenaria grisea* BECHSTEIN, Naturg. Deutschl., iv, i, 1809, 368, pl. xxiv, fig. 1 (Europe).
- Calidris grisea* MEYER, Vög. Liv-u. Esthl., 1815, 177.—BREHM, Vög. Deutschl., 1831, 674; Naumannia, 1850, 69.
- Trynga tridactyla* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 198 (Lake Baical).
- Arenaria leucophæa tridactyla* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 241, 244.
- Calidris tringoides* VIEILLOT, Gal. Ois., ii, 1834, 95, pl. 234 (new name for *Charadrius calidris* Linnæus).
- Calidris americana* BREHM, Vög. Deutschl., 1831, 695; Naumannia, 1850, Heft 2, 68 (North America to Brazil).
- ? *Totanus nigellus* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 409 (based on *Chorlito pies rozos* AZARA, Apunt., iii, p. 318).
- ? [*Tringa*] *nigellus* VIEILLOT, Tabl. Enc. Méth., iii, 1823, 1103.
- Genus CATOPTROPHORUS Bonaparte.
- Catoptrophorus* BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1827, 323. (Type, by original designation, *Scolopax semipalmata* Gmelin.)
- Hodites* KAUP, Natürl. Syst., 1829, 155. (Type, *Scolopax semipalmata* Gmelin.)
- Symphemia* (not of Rafinesque, 1819!^a) of AUTHORS.

^aThe type of *Symphemia* Rafinesque is *Tringa semipalmata* Wilson = *T. pusilla* Linnæus; therefore, *Symphemia* is a synonym of *Ereunetes* Illiger. See Richmond, Proc. Biol. Soc. Wash., xviii, 1905, 75.

Large *Tringinae* (wing 175–220 mm.) with the very stout bill nearly as long as tarsus; a distinct web between basal portion of inner and middle (as well as between outer and middle) toes, and with basal portion of primaries extensively white.

Bill nearly as long as tarsus, stout, but compressed, its depth at base equal to about one-sixth the length of exposed culmen; nasal groove broad, extending about half way to tip of maxilla; nostril considerably anterior to loral antia; narrowly elliptical, longitudinal. Wing ample, pointed, the longest primary (outermost) exceeding distal secondaries by less than half the length of wing. Tail more than one-third as long as wing, truncate or very slightly rounded; rectrices 12. Tarsus decidedly more than one and a half times as long as middle toe without claw, continuously scutellate both anteriorly and posteriorly; bare portion of tibia about half as long as tarsus, scutellate behind and for upper portion in front; outer toe slightly but distinctly shorter than middle toe, slightly longer than inner toe; basal phalanges of outer and middle toes united by a web, the inner and middle toes united at base by a slightly smaller web.

Coloration.—Under parts and upper tail-coverts mostly white, the primaries extensively white basally, blackish or dusky distally; rest of plumage brownish gray, in summer streaked and barred or spotted, more or less with blackish.

Range.—North America (South America in migration.) (Monotypic.)

KEY TO THE SUBSPECIES OF *CATOPTROPHORUS SEMIPALMATUS*.

- a*. Smaller, with relatively shorter and thicker bill (wing, 175–195.5; tail, 66.5–74; exposed culmen, 52.5–59; tarsus, 51.5–58; middle toe, 31.5–36); summer adults with upper parts darker, more olive-grayish, more heavily spotted or barred with dusky, and with anterior and lateral under parts more heavily marked with dusky. (Eastern United States; Bahamas; etc.).

Catoptrophorus semipalmatus semipalmatus (p. 315).

- aa*. Larger, with relatively longer and more slender bill (wing, 193–220; tail, 73–88; exposed culmen, 56–65; tarsus, 57–70; middle toe, 32.5–39); summer adults with upper parts paler, more ashy gray, less heavily marked with dusky, the anterior and lateral under parts also less heavily marked. (Western United States, British Columbia, Alberta, etc., east to Mississippi Valley; occasional during migration along Atlantic and Gulf coasts.)

Catoptrophorus semipalmatus inornatus (p. 319).

CATOPTROPHORUS SEMIPALMATUS SEMIPALMATUS (Gmelin).

WILLET.

Adults in summer (sexes alike).—General color of upper parts brownish gray, the pileum and hindneck streaked with dusky, the back and scapulars irregularly spotted and barred with dusky or blackish; wing-coverts nearly plain brownish gray, becoming paler on greater coverts; secondaries largely white; primaries white for

nearly the basal half, the terminal portion dusky; primary coverts dusky; upper tail-coverts white; tail light brownish gray more or less distinctly mottled transversely with darker gray; under parts white, tinged on foreneck and chest with pale gray and along sides with pale buffy, the foreneck and chest irregularly spotted with dusky, the sides irregularly barred with the same; axillars and under wing-coverts plain sooty blackish; bill blackish, more grayish or horn color basally; iris dark brown; legs and feet grayish.

Winter plumage.—Above plain brownish gray; beneath immaculate dull white, shaded on foreneck with pale gray; otherwise as in summer.

Young.—Above brownish gray, the feathers margined with pale ochraceous or buffy; sides strongly tinged with pale ochraceous or buffy and finely mottled transversely with grayish; otherwise essentially like adults.

Dumet young.—Above dull grayish white or pale brownish gray tinged here and there with pale brown, coarsely and irregularly marbled with dusky; forepart and sides of forehead plain dull whitish; sides of head, together with entire under parts, dull white, the lores crossed, from eye nearly to bill, by a very distinct line of dusky; behind the eye two dusky lines, a shorter and broader one running from eye into the dusky mottling of occiput, and a longer and narrower one commencing immediately beneath the former and confluent with dusky mottling on nape.

Adult male.—Wing, 180–195.5 (188); tail, 67–74 (70.6); exposed culmen, 53–58 (54.5); tarsus, 54–58.5 (56.7); middle toe, 31.5–35.5 (33.9).^a

Adult female.—Wing, 175–191 (187); tail, 66.5–74 (70.1); exposed culmen, 52.5–59 (56.2); tarsus, 51.5–58 (55.1); middle toe, 32–36 (34.3).^b

<i>a</i> Ten specimens.		<i>b</i> Five specimens.			
Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from coast of New Jersey.....	192	69	54	56	35.5
Four adult males from coast of Virginia.....	184.2	71.4	55	56.4	34.2
Four adult males from coast of Alabama.....	192.4	70.9	54.2	57.6	33.7
One adult male from Bahamas (Andros Island).....	188	70.6	54.5	56.7	33.9
Eleven adult males of <i>C. s. inornatus</i>	205.2	79.4	59.4	64.9	34.5
FEMALES.					
One adult female from coast of New Jersey.....	194	68	54.5	55	35
Three adult females from coast of Virginia.....	184.8	70.8	58	56	34.8
One adult female from Bahamas (Andros Island).....	186.5	70	52.5	51.5	32
Six adult females of <i>C. s. inornatus</i>	213.5	80.9	64.1	68.3	37.3
All the above specimens were taken during the breeding season.					

Breeding from coast of New Jersey (Seven Mile Beach)—formerly from Nova Scotia—southward along Atlantic and Gulf coasts to Florida (Old Tampa Bay; Tarpon Springs; Punta Rassa; Caloosahatchie River, etc.), and Texas (Fort Brown), and in Bahamas (Inagua, Andros, Rum Cay, and Long Island); wintering from southern Florida and Bahamas southward through West Indies (Cuba; Jamaica; Porto Rico; Antigua; Barbados; Grenada) and along Gulf and Caribbean coasts of Mexico (Cozumel Island and Mérida, Yucatan) and Central America and northern South America (Cartagena, Colombia; Margarita Island, Venezuela; Trinidad; British Guiana) to Brazil (Rio Guapure) and Bolivia; of doubtful or uncertain occurrence in Mississippi Valley; accidental in Europe (France, 2 records; Sweden; Dalmatia).

[*Scolopax*] *semipalmata* Gmelin, Syst. Nat., i, pt. ii, 1789, 659 (New York; based on *Semipalmated Snipe* Pennant, Arctic Zool., ii, 1785, 469, pl. 20, fig. 2).—LATHAM, Index Orn., ii, 1790, 722.—TURTON, Syst. Nat., i, 1806, 396.

Scolopax semi-palmata Wilson, Am. Orn., vii, 1813, 27, pl. 56, fig. 3.

[*Scolopax*] *semipalmata* Bonaparte, Journ. Ac. Nat. Sci. Phila., v, 1825, 82 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [164].

Totanus semipalmatus Temminck, Man. d'Orn., ii, 1820, 637; iv, 1840, 412.—Bonaparte, Ann. Lyc. N. Y., ii, 1826, 323.—Werner, Atlas, Grallatores, 1827, pl. 15.—Lesson, Traité d'Orn., 1831, 551.—Nuttall, Man. Orn. U. S. and Can., Water Birds, 1834, 144.—Audubon, Orn. Biog., iii, 1835, 510, part, pl. 274; v, 1839, 585, part; Synopsis, 1839, 245, part; Birds Am., 8vo. ed., v, 1842, 324, part, pl. 347.—Peabody, Rep. Orn. Mass., 1839, 369.—Giraud, Birds Long Is., 1844, 254.—Schlegel, Rev. Crit., 1844, p. xciv; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 76 (Dalmatia).—Thienemann, Rhea, i, 1846, 126 (Europe).—Lembeye, Aves de la Isla de Cuba, 1850, 92.—Wallengren, Naumannia, 1854, 256 (Sweden).—Haymond, Proc. Ac. Nat. Sci. Phila., viii, 1856, 295 (Franklin Co., Indiana).—Bryant, Proc. Bost. Soc. N. H., vi, 1857, 119 (Nova Scotia).—Kneeland, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Mich.).—Martens, Journ. für Orn., 1859, 218 (Bermudas).—Willis, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia, breeding).—Bland, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—Newton, Ibis, 1860, 331 (France; descr. egg).—Léotaud, Ois. Trinidad, 1866, 456.—Finsch, Proc. Zool. Soc. Lond., 1870, 588 (Trinidad; crit.).—Coues, Check List, 1873, no. 431, part; Birds Northwest, 1874, 494, part.—Bailey (H. B.), Bull. Nutt. Orn. Club, i, 1876, 26 (Cobb's Island, Virginia, breeding; habits).—Reid, Zoologist, 1877, 477 (Bermudas, July).—Scott, Bull. Nutt. Orn. Club, iv, 1879, 225 (Long Beach, New Jersey, formerly breeding).—Maynard, Birds E. N. Am., 1879, 294.—Cory, Birds Bahama Is., 1880, and 2nd. ed., 1890, 160 (Inagua Island, breeding).—Dalgleish, Bull. Nutt. Orn. Club, v, 1880, 147 (France, 2 records).—Harting, Ibis, 1883, 134.—Seebohm, Geog. Distr. Charadriidae, 1887, pp. xxiii, 358.

[*Totanus*] *semipalmatus* Keyserling and Blasius, Wirb. Eur., 1840, pp. lxxiii, 211.—Gray, Gen. Birds, iii, 1846, 573.—Putnam, Proc. Essex Inst., i, 1856, 217 (Essex Co., Mass., August).

[*Totanus*] *semipalmatus* Gray, Hand-list, iii, 1871, 46, no. 10278.

[*Totanus*] *semipalmata* Coues, Key N. Am. Birds, 1872, 258, part.

Totanus semi-palmatus Vieillot, Nouv. Dict. d'Hist. Nat., vi, 1816, 403.

Totanus semipalmata DENNY, Proc. Zool. Soc. Lond., 1847, 39.

Totanus (Catoptrophorus) semipalmatus BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 323.

Catoptrophorus semipalmatus BONAPARTE, Geog. and Comp. List, 1838, 51.—GRAY, List Birds Brit. Mus., Grallæ, 1844, 101.—GOSSE, Birds Jamaica, 1847, 354.—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, July 10, 1848, 1 spec.).—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (North America; accidental in Europe); vii, 1860, 308 (Cuba).—NEWTON, ed. Blasius' List Birds Europe, 1862, 18 (Sweden?).—RILEY, Auk, xxii, 1905, 353 (Andros, Rum Cay, and Long islands, Bahamas, breeding).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 368.—PHILLIPS, Auk, xxvii, 1910, 316 (Bull's Bay, etc., South Carolina, breeding).

[*Catoptrophorus*] *semipalmatus* BONAPARTE, Compt. Rend., xliii, 1856, 596.

[*Catoptrophorus*] *semipalmatus* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 758.

Catoptrophorus semipalmata semipalmata BANGS and ZAPPEY, Am. Nat., xxxix, April, 1905, 196 (Isle of Pines, Cuba).

Catoptrophorus semipalmatus semipalmatus AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 122.—PHILLIPS, Auk, xxviii, 1911, 75 (Matamoros, Tamaulipas).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 42 (Porto Rico, formerly; resident?).

Catoptrophorus semipalmatus JARDINE, Contr. Orn., 1849, 84 (Bermudas, autumn).
Glottis semipalmata NILSSON, Orn. Suec., ii, 1821, 55 (Sweden?).

Symphemia semipalmata HARTLAUB, Rev. Zool., 1845, 342.—CABANIS, Journ. für Orn., 1856, 351 (Cuba crit.).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 729, part (Cape May, New Jersey; Calcasieu Pass, Louisiana); Proc. Ac. Nat. Sci. Phila., xii, 1860, 195 (Cartagena, Colombia).—BAIRD, Cat. N. Am. Birds, 1859, no. 537, part.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 122 (Bahamas, resident).—LAWRENCE, Ann. Lyc. N. Y., vii, 1860, 272 (Cuba; crit.); viii, 1866, 294 (vicinity New York City); ix, 1869, 210 (Merida, Yucatan); Proc. U. S. Nat. Mus., i, 1878, 233 (Antigua), 242 (Barbuda), 488 (Lesser Antilles).—ALBRECHT, Journ. für Orn., 1861, 56 (Bahamas), 213 (Cuba).—TAYLOR (G. C.), Ibis, 1862, 129 (Florida).—SCLATER, Ibis, 1862, 277 (accidental in Europe).—GUNDLACH, Journ. für Orn., 1862, 85 (Cuba; crit.); 1875, 322 (Cuba); 1878, 161, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 354; Anal. Soc. Esp. Hist. Nat., vii, 1878, 369 (Porto Rico).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine).—VERRELL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Massachusetts); Bull. Mus. Comp. Zool., ii, 1871, 356 (e. Florida).—DEGLAND and GERBE, Ois. Eur., ii, 1867, 233.—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 295 (New England, summer); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 32 (Fort Macon, North Carolina); Check List, 2nd ed., 1882, no. 632, part.—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 81).—PELZELN, Orn. Bras., 1870, 309, 457 (Rio Guapore, March).—BREE, Birds Europe, v, 1875, 15, pl. 2, fig. 2.—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England, summer).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 552, part); Nom. N. Am. Birds, 1881, no. 552, part.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 285, part.—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 237 (Bermudas, 1 spec., July 3, 1848).—WELLS, Proc. U. S. Nat. Mus., ix, 1886, 628 (Grenada).—AMERICAN ORNITHOLOGISTS' UNION, Check

- List, 1886, no. 258, part.—SALVIN, Ibis, 1886, 179 (Brit. Guiana); 1889, 379 (Cozumel Island).—FEILDEN, Ibis, 1889, 495 (Barbados).—CORY, Auk, iv, 1887, 316 (West Indian localities and references); vii, 1890, 374 (Anegada); viii, 1891, 47 (Antigua, April to July); ix, 1892, 48 (Maragauna Island, Bahamas); Birds West Ind., 1889, 237; Cat. West Ind. Birds, 1892, 94.—SCOTT, Auk, vi, 1889, 158 (Old Tampa Bay, Tarpon Springs, and Punta Rassa, Florida, breeding; Key West, autumn); ix, 1892, 14 (Jamaica), 212 (Caloosahatchie River, Florida, breeding).—(?)PINDAR, Auk, vi, 1889, 312 (Fulton Co., Kentucky).—SCHICK, Auk, vii, 1890, 328 (Seven Mile Beach, New Jersey, breeding).—NORTHROP, Auk, viii, 1891, 76 (Andros Island, Bahamas).—BREWSTER and CHAPMAN, Auk, viii, 1891, 137 (Suwanee River, Florida).—ELLIOT, N. Am. Shore Birds, 1895, 131, pl. 41.—MACKAY, Auk, xiii, 1896, 88 (Nantucket Island, Massachusetts, 5 specs., May 2, 1895).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 405, 757, part (Cozumel Island; Brit. Guiana; San Pedro, Honduras?).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 371, part (Matamoros and Boca Grande, Tamaulipas; Orizaba, Vera Cruz; Merida and Cozumel I., Yucatan; San Pedro Honduras?; etc.).—LOWE, Ibis, 1907, 553 (Margarita I., Venezuela, March).
- [*Symphemia*] *semipalmata* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145, part.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 52 (Sweden; France).—CORY, List Birds West Ind., revised ed., 1886, 27.—SHARPE, Hand-list, i, 1899, 160, part.—(?)FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 384, part (North America; Bolivia).
- (?)*Symphemia* *semipalmata* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384, part (Illinois); Man. N. Am. Birds, 1887, 167, part, 584; 2nd ed., 1896, 587.—COUES, Key N. Am. Birds, 2nd ed., 1884, 637, part.
- (?)*Totanus crassirostris* VIELLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 406 (Louisiana).
- (?)*[Catoptrophorus]* *crassirostris* BONAPARTE, Compt. Rend., xliii, 1856, 596.
- Symphemia* *semipalmata typica* BREWSTER, Auk, iv, April, 1887, 146, in text (descr.; crit.).

CATOPTROPHORUS SEMIPALMATUS INORNATUS (Brewster).

WESTERN WILLET.

Similar to *C. s. semipalmatus* but decidedly larger, with relatively longer and more slender bill and paler coloration; summer adults with upper parts less heavily marked with dusky, the anterior and lateral under parts also less heavily marked.

Adult male.—Wing, 193–218 (205.2); tail, 73–84.5 (79.4); exposed culmen, 58–63.5 (59.4); tarsus, 57–69 (64.9); middle toe, 32.5–37 (34.5).^a

Adult female.—Wing, 209.5–220 (213.5); tail, 74–88 (80.9); exposed culmen, 63–65 (64.1); tarsus, 66.5–70 (68.3); middle toe, 36–39 (37.3).^b

^a Eleven specimens.

^b Six specimens.

Breeding from central Oregon (Fort Klamath), southern Alberta, southern Assiniboia and southern Manitoba, southward to southern South Dakota, central Colorado, central Utah, and northern California, eastward to western Minnesota (Grant, Traverse, and Becker Counties), northern Iowa, and coasts of Texas and Louisiana; winters from northern California (Humboldt Bay, etc.), Texas, Louisiana, and Gulf coast of Florida through Mexico and Pacific coast of Central America (Chiapám and San José, Guatemala; Punta Arenas, Costa Rica) to western Ecuador (Bay of Santa Elena) and Peru Santa Lucia; Tumbes), and Galápagos Archipelago (Abingdon and Albemarle Islands);^a in autumnal migration occurring in British Columbia (Clover Point, Vancouver Island) and on Atlantic coast of United States, irregularly but sometimes numerous from Massachusetts southward.

Totanus semipalmatus (not *Scolopax semipalmata* Gmelin) SWAINSON, Fauna Bor.-Am., ii, 1831, 388, pl. 67 (interior of British America, north to lat. 56°).—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., 1839, 156 (n.w. United States).—WOODHOUSE, Sitgreaves' Rep. Expl. Zúñi and Col. R., 1853, 99 (New Mexico).—HEERMANN, Rep. Pacific R. R. Surv., x, pt. vi, 1859, 65 (California; Nevada).—COUES, Check List, 1873, no. 431, part; Birds Northwest, 1874, 494, part; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 641 (Red River to Rocky Mountains).—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 348, (Utah)—HENSHAW, Zool. Expl. W. of 100th Merid., 1875, 457 (Arizona; Denver, Colorado).—(?) SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 55 (Texas).

[*Totanus*] *semipalmatus* SWAINSON, Fauna Bor.-Am., ii, 1831, 391, footnote (crit.). [*Totanus*] *semipalmata* COUES, Key N. Am. Birds, 1872, 258, part. *Symphemia semipalmata* BAIRD, in Rep. Stansbury's Surv. Great Salt Lake, 1852, 320 (Salt Lake Valley, etc., Utah); Rep. Pacific R. R. Surv., x, no. 2, 1859, 15 (Utah); Cat. N. Am. Birds, 1859, no. 537, part.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 729, part (Medicine Creek; San Francisco, Presidio, Bodega, and San Pedro, California); Proc. Ac. Nat. Sci. Phila., xiv, 1862, 321 (California).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (Rio Mimbres, New Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1860, 253 (Orizaba, Vera Cruz).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 241 (coast of Washington; California).—BLAKISTON, Ibis, 1863, 133. Saskatchewan).—SALVIN, Ibis, 1865, 190 (Guatemala); 1866, 198 (Chiapam, Guatemala).—DRESSER, Ibis, 1866, 37 (s. Texas).—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 97 (Fort Whipple, Arizona); Ibis, 1866, 269 (s. California); Check List, 2nd ed., 1882, no. 632, part.—MERRIAM, Sixth An. Rep. U. S. Geol. Surv., 1872 (1873), 700, 714 (Salt Lake, Utah; North Fork, Idaho).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 309 (Mazatlan, Sinaloa, resident); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo, Oaxaca).—(?) TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 748 (Santa Lucia, Peru, Nov., Dec.); Orn. du Pérou, iii, 1886, 364 (Tumbes).—RIDGWAY, Orn. 40th parallel, 1877, 609 (Great

^a The winter range, as stated above, is largely hypothetical, specimens from south of Oaxaca (San Mateo) not having been examined.

- Salt Lake, Utah, breeding); Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 552, part); Nom. N. Am. Birds, 1881; no. 552, part; in Belding, Proc. U. S. Nat. Mus., vi, 1883, 534 (Lower California, Jan.).—(?)MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 162 (Fort Brown, Texas, breeding; descr. nest and eggs).—ROBERTS and BENNER, Bull. Nutt. Orn. Club, v, 1880, 18 (Grant and Traverse Counties, Minnesota, breeding).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 285, part.—DREW, Auk, ii, 1885, 18 (Colorado, breeding at 6,000 ft.).—AGERSBERG, Auk, ii, 1885, 286 (s. e. South Dakota).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 258, part.—SETON, Auk, iii, 1886, 152 (Souris and Brandon Plains and from Red River westward, Manitoba).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 199 (Humboldt Bay, California, Nov., Dec.).—COOPER, Auk, iv, 1887, 91 (Ventura Co., California, winter).—MERRILL (J. C.), Auk, v, 1888, 145 (Fort Klamath, Oregon, breeding).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 503 (Manitoba).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 405, 757, part (Tree Marias Islands and San Blas, Tepic; Mazatlan and Presidio, Sinaloa; "Tehuantepec" i. e. San Mateo, Oaxaca; Chiapam and San Jose, Guatemala).—(?)SALVADORI and FESTA, Boll. Mus. Zool., etc., Torino, xv, 1900, 44 (Bay of Santa Elena, w. Ecuador, Jan.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 371, part (Mazatlan and Presidio, Sinaloa; Tree Marias Islands and San Blas, Tepic; San Mateo, Oaxaca; Chiapam and San Jose, Guatemala).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 55 (Albemarle and Abingdon islands, Galapagos, Sept. 21 and Nov. 1).
- [*Symphemia semipalmata* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145, part.—SHARPE, Hand-list, i, 1899, 160, part.
- S[*ymphemia semipalmata* GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 223 (California).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 381, part (Illinois); Man. N. Am. Birds, 1887, 167, part.—COUES, Key N. Am. Birds, 2nd ed., 1884, 637, part.
- (?)*Catoptrophorus semipalmatus* BANGS, Auk, xxiv, 1907, 291 (Punta Arenas, Costa Rica, Aug. 13, 1906).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 418 (Punta Arenas, Costa Rica).
- (?)*Totanus speculiferus* CUVIER, Règne Anim., 2nd ed., i, 1829, 531 (no locality).
- (?)*Totanus speculiferus* LESSON, Traité d'Orn., 1831, 552.—PUCHERAN, Rev. et Mag. de Zool., ser. 2, iii, 1851, 369.
- (?)*Catoptrophorus speculiferus* BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).
- (?)*Symphemia semipalmata* var. *speculiferus* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).
- (?)*Symphemia speculifera* SCLATER, Ibis, 1862, 199, footnote (Florida, crit.).
- Symphemia semipalmata speculifera* ALLEN, Auk, v, Oct., 1888, 424, in text (crit.).—ELLIOT, N. Am. Shore Birds, 1895, 132.
- Totanus semipalmatus speculiferus* SEEBOHM, Geog. Distr. Charadriidæ, 1887, pp. xxiii, 359.
- Symphemia semipalmata inornata* BREWSTER, Auk, iv, no. 2, April, 1887, 145 (Larimer Co., Colorado; coll. W. Brewster).—BECKHAM, Proc. U. S. Nat. Mus., x, 1887, 637, 642, 653 (Bexar Co., Corpus Christi, and Laguna Madre, Texas).—SCOTT, Auk, v, 1888, 185 (Tarpon Springs, w. Florida, frequent in winter); vi, 1889, 158 (Gulf coast Florida in winter, casual in summer); ix, 1892, 212 (Caloosahatchie River, Florida, rare in winter).—COOKE, Bird

- Migr. Miss. Val., 1888, 96 (Mississippi Valley range and records).—CHAPMAN, Auk, v, 1888, 395.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Supplement to Check List, 1889, 7 (Check List no. 258a); Check List, 2nd ed., 1895, no. 258a.—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2nd ser., ii, 1889, 273 (near La Paz, San Quentin Bay, and Magdalena Bay, Lower California, winter resident).—MERRIAM, N. Am. Fauna, no. 5, 1891, 92 (Snake River, Idaho, July; Great Salt Lake, Utah, breeding).—FISHER (A. K.), N. Am. Fauna, no. 7, 1893, 23 (Morro Bay, California, November).—RICHMOND and KNOWLTON, Auk, xi, 1894, 302 (near Moreland, Montana, Aug. 19).—RIDEWAY, Man. N. Am. Birds, 1887, 594.—BEYER, Proc. La. Soc. Nat. for 1897-99 (1900), 96 (coast of Louisiana, common resident).—JONES, Wilson Bull., n. s., xiii, 1906, 131 (Lorain Co., Ohio, Sept. 17, 1906).—BISHOP, Auk, xxiii, 1906, 344 (Stony Creek, Connecticut, Aug. 15, 1897).—ROBERTS, in Wilcox's Hist. Becker Co., Minnesota, 1907, 168 (breeding).—BEYER, ALLISON, and KOPMAN, Auk, xxv, 1908, 179 (coast Louisiana, resident).—KERMODE, Prov. Mus. Victoria, 1909, 38 (Clover Point, Vancouver I., Brit. Columbia). [*Symphemia*] *semipalmata inornata* RIDGWAY, Man. N. Am. Birds, 1887, 594; 2d ed., 1896, 588.
- Catoptrophorus semipalmatus inornatus* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 368; Check List, 3rd ed., 1910, 122.—JONES (L.), Wilson Bull., xxi, 1909, 121 (Cedar Point, n. Ohio, 1 spec., Sept. 17, 1906).—BRIDGE, Auk, xxix, 1912, 537 (Nahant Beach, Massachusetts, Aug. 10, 1912).—HATHAWAY, Auk, xxx, 1913, 551 (Rhode Island records).

Genus GLOTTIS Koch.

- Glottis* KOCH, Syst. baier. Zool., 1816, pp. xlii, 304. (Type, by tautonymy, *Totanus glottis* Bechstein=*Scolopax nebularia* Gunnerus.)
- Limicola* FORSTER, Synopt. Cat. Birds, 1817, 23. (Type, *Scolopax glottis* LATHAM=*S. nebularia* Gunnerus.)
- Limicola* (emendation) SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 480, in synonymy of *Glottis*.
- Limosa* (not of Brisson, 1760) STEPHENS, Shaw's Gen. Zool., xii, pt. i, 1824, 85. (Type, *Scolopax glottis* Latham=*S. nebularia* Gunnerus.)
- Nea* BILLBERG, Synop. Faunae Scand., i, pt. 2, 1828, tab. A and p. 155. (New name for *Glottis* "Nilsson.")

Rather large Tringinae (wing 176-191 mm.) with the rather stout, compressed, and distinctly upturned bill nearly as long as tarsus, the latter much more than one and a half times (nearly twice) as long as middle toe without claw, and with nasal groove extending decidedly less than half way to tip of maxilla.

Bill nearly as long as tarsus, stout (its depth at base equal to about one-seventh the length of exposed culmen), compressed (decidedly deeper than wide at base) slightly but decidedly upturned or recurved for distal half, the extreme tip of maxilla slightly but distinctly decurved; nasal groove extending much less than half way to tip of maxilla; nostrils sub-basal, longitudinally linear, pervious; loreal and malar antiae on same vertical line (decidedly posterior to end of nostril), the mental antia nearly on same vertical line with anterior end of

nostril. Wing ample, pointed, the longest primary (outermost) exceeding distal secondaries by decidedly more than half the length of wing; elongated tertials narrow, tapering terminally, the tip of longest reaching about to tip of fourth primary (counted from outside). Tail about two-fifths as long as wing, very slightly rounded or nearly truncate, the middle pair of rectrices slightly projecting; rectrices, 12. Tarsus nearly twice as long as middle toe without claw, continuously transversely scutellate both anteriorly and posteriorly; bare portion of tibia about two-thirds as long as tarsus (about as long as middle toe with claw), also transversely scutellate before and behind; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner; hallux small, much elevated, about half as long as basal phalanx of middle toe; a small but very distinct web between basal phalanges of outer and middle toes, but space between inner and middle toe with web minute, practically absent.

Coloration.—Lower back, rump, and most of under parts immaculate white; no white areas on wing; back, wing-coverts, etc., light brownish gray, more or less blotched with blackish in summer; head and neck streaked with dusky, the chest streaked or spotted with the same.

Range.—Northern Europe and Asia, migrating to Africa, India, and Australia; accidental in Florida, Brazil, Argentina, and Chile? (Monotypic.)

GLOTTIS NEBULARIA (Gunnerus).

GREEN-SHANK.

Adults in summer.—Pileum and hindneck grayish white, broadly streaked with dusky; rest of head and neck, together with entire under parts, white, the loreal, auricular, and malar regions, sides of neck, and foreneck narrowly streaked with dusky, the sides of breast and anterior portion of sides coarsely and irregularly marked with dusky, the markings assuming a more or less V-shaped or sagittate form on sides, the eyelids, a rather broad superciliary stripe, chin, throat, breast, abdomen, flanks, and under tail-coverts immaculate; axillars white, sometimes irregularly marked on distal portion with grayish; under wing-coverts white, with irregularly sagittate markings of grayish dusky; scapulars and interscapulars blackish edged with pale gray; wing-coverts nearly uniform deep brownish gray the tertials similar but edged with paler; primaries uniform dusky; lower back, rump, and upper tail-coverts immaculate white, the large upper tail-coverts, however, narrowly zig-zagged (transversely) with dusky; tail white, narrowly and incompletely (or interruptedly) barred with grayish dusky; bill blackish becoming more brownish or

grayish basally; iris dark brown; legs and feet dusky (yellowish gray or olive-gray, the joints more bluish, in life).^a

Winter plumage.—Scapulars and interscapulars brownish gray margined with whitish, the foreneck, etc., unstreaked; otherwise as in summer.

Young.—Similar to the winter plumage, but scapulars and interscapulars rather lighter brownish gray, margined with paler gray or grayish white and with a sub-edging of dusky in form of an irregular dusky line near to and parallel with the margin, and tertials with short zig-zag oblique bars along edges of both webs; foreneck, chest, and sides immaculate white.

Downy young.—"Upper parts black and gray, with reddish tinge; forehead, sides of head, and whole under parts white; a streak through the eye, a fine line along the forehead, a larger spot on the crown, a few lines or spots over the arm, sides of rump, and tail-down black, often mixed with reddish brown."^b

Adult male.—Wing, 178–191 (182.5); tail, 70–83 (76); exposed culmen, 52–58 (54.8); tarsus, 53.5–63 (58.5); middle toe, 32–34.5 (32.3).^c

Adult female.—Wing, 176–189 (184.4); tail, 70–82 (76.4); exposed culmen, 50.5–57 (54.9); tarsus, 51–61 (57.9); middle toe 31–35 (33.1).^d

Breeding in northern Europe and Asia (highlands of Scotland, fells of Norway, Sweden, etc., and valleys of Petchora and Obb, Siberia, lat. 60° to 66° N.); migrating southward to southern Africa, India, Burma, Ceylon, Malay Peninsula, Borneo, Java, Philippine Islands, Australia, etc., wintering northward to China and Mediterranean basin; accidental in Florida (also in southern Brazil, Argentina, and Chile?); not recorded from Iceland nor Greenland.

^a Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 128, footnote.

^b Dresser, Birds of Europe, viii, 1871, 175.

^c Ten specimens.

^d Eight specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Four adult males from Europe.....	182.5	77	55.7	58.7	32.9
Six adult males from eastern Asia.....	182.9	75.4	54.2	58.4	33.3
FEMALES.					
One adult female from Europe.....	185	82		59	34
Seven adult females from eastern Asia.....	184.3	75.6	54.9	57.8	32.9

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- Limosa totanus* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 183.
- Scolopax nebularia* GUNNERUS, in Leem, Beskr. Finn. Lapper, 1767, 251 (District of Trondhjem, Norway).
- Totanus nebularius* STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 37 (crit.); xxi, 1898, 281 (Kuril Islands); Bull. U. S. Nat. Mus., no. 29, 1885, 128 (Bering Island and delta of Avatscha River, Kamchatka; e. Asiatic references; measurements, etc.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 267.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 253.—GIGLIOLI, Avif. Ital., 1886, 398; Avif. Ital., 1st Resoc., 1889, 605; 2d Resoc., 1890, 662; 3rd Resoc., 1891, 517.—RAMSAY, Tab. List Austral. Birds, 1888, 20.—SHELLEY, Birds Africa, i, 1896, 192.—RIDGWAY, Proc. U. S. Nat. Mus., xviii, 1896, 515 (Ile St. Joseph, Amirante group, Aug.), 524 (Gloriosa Island), 527 (Aldabra Island, Nov.).—SCLATER, Proc. Zool. Soc. Lond., 1897, 189 (Mozambique).
- [*Totanus*] *nebularius* RIDGWAY, Man. N. Am. Birds, 1887, 165.
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- [*Scolopax*] *glottis* (not of Linnæus, 1758) LATHAM, Synopsis Birds, Suppl., 1787, 292; Index Orn., ii, 1790, 720.—TURTON, Syst. Nat., i, 1806, 398 (America),
- Scolopax glottis* VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 248.—LESSON, Traité d'Orn., 1831, 551.—YARRELL, Hist. Brit. Birds, ii, 1843, 549.
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- Glottis floridanus* BONAPARTE, Geog. and Comp. List, 1838, 51 (Florida; type now in coll. U. S. Nat. Mus.).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 730.—BAIRD, Cat. N. Am. Birds, 1859, no. 538.
- Glottis vigorii* GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 99 (Nepal, India).
- Glottis niveigula* GRAY, Cat. Mam., etc., Nepal pres. Hodgson, 1846, 138 (Nepal; based on *Totanus niveigula* Hodgson, Icon. ined. in Brit. Mus., Grallæ, pl. 85, figs. 1, 2, no. 766).
- Glottis albicollis* BREHM, Naumannia, 1855, 292 (new name for *Totanus glottoides* "Gould"); Vogelf., 1855, 311.
- Glottis linnæi* MALM, Göt. och Bohusl. Fauna, 1877, 81, 278.
- Totanus littoreus* REICHENOW, Journ. für Orn., 1889, 266 (Quilimane; Zanzibar); 1890, 109 (Cameroons); 1892, 9 (Bukoba); 1897, 4 (Togo Land); 1902, 12 (Togo Land); Syst. Verz., 1889, 48.—BRUSINA, Motr., etc. (Orn. Croatica), 1890, 90.—FLECK, Journ. für Orn., 1894, 383 (Walvisch Bay, s. w. Africa).—REISER, Orn. Balcanica, 1894, 167.—SÖSTEDT, MT. deutsch. Schutz., viii, 1895, 13 (Cameroons).—ELLIOT, N. Am. Shore Birds, 1895, 120, 239, pl. 38.

Genus NEOGLOTTIS^a Ridgway.

Medium-sized to rather large Tringinae (wing 149–199 mm.) resembling *Glottis* but with bill more slender, less compressed, and not distinctly recurved, the exposed culmen much shorter than tarsus; tarsus nearly one-third as long as wing, and the lower back and rump not white.

Bill slender (its depth at base equal to less than one-eighth the length of exposed culmen), slightly compressed, very faintly if at all upturned for distal half, the exposed culmen nearly as long as tarsus (*N. melanoleuca*) or decidedly shorter (*N. flavipes*); nostrils sub-basal, longitudinally linear (slit-like), pervious; nasal groove extending less than half the distance to tip of maxilla (about two-fifths the distance in *N. melanoleucus*, nearly half the distance in *N. flavipes*); loreal and malar antiae on practically the same vertical line, the mental antia as far as or beyond base posterior end of nostril; edge of frontal feathering forming a more or less deeply concave line at base of culmen. Wing ample, pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing; elongated tertials rather broad, though tapering terminally, the tip of longest falling considerably short of tip of fourth primary (counted from outside). Tail about two-fifths as long as wing, very slightly

^a Ntor, new; +*Glottis*. Type, *Scolopax melanoleuca* Gmelin.

rounded (nearly truncate), the middle pair of rectrices very slightly, if at all, projecting; rectrices 12. Tarsus one-third as long as wing, continuously transversely scutellate both anteriorly and posteriorly; bare portion of tibia about as long as middle toe without claw, also transversely scutellate before and behind; lateral toes decidedly shorter than middle toe, the outer decidedly longer than the inner; hallux much elevated, about half as long as basal phalanx of middle toe; web between outer and middle toes extending for about half the length of basal phalanx of the latter, that between inner and middle toe very small (less than half as large); anterior toes with lateral membranes slightly developed except toward base.

Coloration.—Above, including lower back and rump, gray, more or less spotted with white and in summer plumage spotted with black also; upper tail-coverts white, the posterior ones barred with dusky; tail barred with white and dusky, the middle rectrices grayish; under parts mostly immaculate white, the foreneck streaked, the chest irregularly spotted, the sides irregularly barred with blackish (in summer).

Range.—Northern North America, migrating to West Indies and Central and South America. (Two species.)

In view of recent dismemberment of the old genus *Totanus* (a procedure which seems to me quite justifiable) I have no other alternative than to designate a new genus for the two American species formerly referred to *Totanus*. Mr. Gregory Mathews (Birds of Australia, iii, 1913, 198) refers *T. melanoleucus* to *Glottis* and *T. flavipes* to *Thiornis*; but most certainly these two species are strictly congeneric (in fact if it were not for the difference in size it would be almost impossible to distinguish them!), and neither fit at all well into the genera to which Mr. Mathews refers them. *T. flavipes* certainly is not strictly congeneric with *Thiornis stagnatilis*, as Mr. Mathews says it is. The latter has the bill relatively much longer and more slender (more than three-fourths as long as tarsus instead of only about two-thirds as long), with the nasal groove decidedly less than half as long as the maxilla; the tarsus much more than one-third as long as wing, and the coloration decidedly dissimilar.

KEY TO THE SPECIES OF NEOGLOTTIS.

- a. Larger (wing 180-199, exposed culmen 52-61, tarsus 55-68 mm.). (Whole of America, breeding northward.) *Neoglottis melanoleuca* (p. 330).
- aa. Smaller (wing 149-163, exposed culmen 30-39, tarsus 45.5-55.5 mm.). (Whole of America, breeding northward.) *Neoglottis flavipes* (p. 331).

NEOGLOTTIS MELANOLEUCA (Gmelin).

GREATER YELLOW-LEGS.

Adults in breeding plumage (sexes alike).—Pileum and hindneck streaked with blackish and white or grayish white, the former predominating, at least on pileum; scapulars and interscapulars black

or fuscous-black intermixed with brownish gray and spotted along edges with grayish white or pale gray, the tertials blackish with oblique spots of pale gray (passing externally into white) along edges; lower back and rump dusky brownish gray, the feathers more or less distinctly tipped with pale gray or whitish and with an indistinct subterminal bar of dusky; upper tail-coverts white, the more posterior ones distinctly barred with dusky, the anterior ones with fewer and more irregular markings; four middle rectrices brownish gray, spotted along edges with dusky (the gray interspaces becoming whitish on edges), the remaining rectrices white (tinged with gray on distal portion of outer webs), barred (rather broadly) with dusky; anterior lesser wing-coverts dark brownish gray narrowly margined with paler; middle and greater coverts mixed brownish gray and blackish (the latter in form of irregular, sometime large and conspicuous, spots) and spotted, more or less with pale gray or grayish white; secondaries brownish gray, edged, or spotted along edges, with white; primary coverts and primaries dark fuscous or fuscous-black, the three or four innermost (proximal) primaries paler and more grayish, narrowly margined terminally with whitish and sometimes spotted with whitish and dusky along edges; sides of head (including indistinct broad superciliary stripe) and neck and entire under parts white, the chin and upper throat (sometimes whole throat), abdomen, anal region, and median anterior under tail-coverts immaculate, the sides of head and neck and foreneck narrowly streaked with dusky, the chest and upper breast (sometimes whole breast) irregularly streaked and spotted (sometimes with a few irregular bars also), the sides, flanks, and lateral and posterior under tail-coverts barred (more or less irregularly) with dusky or blackish; axillars and under wing-coverts white, the former narrowly and irregularly barred with brownish gray, the latter with mostly V-shaped marks of dusky brownish gray, the under primary coverts barred with light gray, or with light gray predominating, margined terminally and barred along edges with white; inner webs of primaries light gray darkening distally, the proximal portion finely mottled or freckled with whitish toward edges, this mottling becoming very distinct on proximal quills; bill blackish becoming more grayish, or dusky horn colored, basally; iris dark brown; legs and feet yellow in life.

Winter plumage.—General color of upper parts light gray, the black markings of the summer plumage (but not the white spotting) being absent; foreneck and chest more narrowly streaked, breast nearly if not quite immaculate, and sides and flanks irregularly marked with grayish; otherwise as in summer.

Young.—Similar to the winter plumage, but gray of upper parts darker and more brownish, the white spotting tinged with light brownish buffy.

Downy young.—General color very pale buffy gray or dull grayish white, becoming more decidedly white on under parts of body; a small spot in center of anterior portion of forehead, a loreal streak, and a stripe on each side of occiput dull black; crown and occiput deep grayish brown, margined laterally with dull black, the black lateral stripes uniting posteriorly and extending as a single stripe down median portion of nape; hindneck deep grayish brown intermixed laterally with very fine filamentous streaks of dull whitish; lower back and rump with a broad median stripe of dark grayish brown or fuscous and two narrower lateral stripes of pale brownish gray, beneath which is a broad stripe of grayish brown; outer side of thighs deep grayish brown.

Adult male.—Wing, 180–198.5 (187.8); tail, 71–83 (76.9); exposed culmen, 52–61 (55.8); tarsus, 57–68 (60.7); middle toe, 32.5–40.5 (35.5).^a

Adult female.—Wing, 180–197 (188.9); tail, 71–83 (76.6); exposed culmen, 53.5–58 (55.5); tarsus, 55–62.5 (59.4); middle toe, 33–37.5 (34.8).^b

Breeding from Anticosti, Magdalen, and Mingan islands in Gulf of St. Lawrence, Newfoundland, Labrador, etc., to southern Mackenzie, Cook Inlet, Alaska (Mount Iliamna), and southern British Columbia (formerly southward to northern Minnesota and Cook County, northeastern Illinois?); migrating southward over whole of United States, Middle America (including Bermudas and West Indies), and South America, as far as Patagonia (Straits of Magellan) and Chile (Antofagasta; Rio Pilmaguén; Sitana, Tarapacá; Telcahuano; Santiago; Valparaíso); not yet recorded from Galápagos Archipelago; accidental in western Europe (Tresco Abbey, Scilla Island, Sept. 16, 1906).

Locality.	a Twenty specimens.					b Eleven specimens.				
	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.										
Ten adult males from eastern North America.....	190.8	78.5	56.5	62.4	36.6					
Ten adult males from western North America.....	184.7	75.4	54.5	59	34.3					
FEMALES.										
Six adult females from eastern North America (South Carolina, migrants).....	187.4	77.1	55.5	59.9	35.7					
Five adult females from western North America.....	190.6	76.1	55.5	58.9	33.7					

A sufficient series of specimens may possibly show differences in coloration between eastern and western birds of this species. Some late spring adults of the latter have much more white spotting on the upper parts (the black spotting being thereby rendered more conspicuous) and the under parts more extensively marked with dusky.

- Scolopax* . . . *totanus* (not of Linnæus, 1758) FORSTER, Philos. Trans., lxii, 1772, 410 (Albany Fort, Keewatin).
- [*Scolopax*] *totanus* GMELIN, Syst. Nat., i, pt. ii, 1789, 665, part (North America).
- [*Scolopax totanus*] β LATHAM, Index Orn., ii, 1790, 721.
- [*Scolopax totanus*] 2 TURTON, Syst. Nat., i, 1806, 399 (North America).
- [*Scolopax*] *melanoleuca* GMELIN, Syst. Nat., i, pt. ii, 1789, 659 (Chateau Bay, Labrador; based on *Stone Snipe* Pennant, Arct. Zool., ii, 1785, 468).—LATHAM, Index Orn., ii, 1790, 723.—TURTON, Syst. Nat., i, 1806, 396.
- Scolopax melanoleuca* SWAINSON, Fauna Bor.-Am., ii, 1831, 389, footnote (crit.).
- Totanus melanoleucus* VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 398 (Labrador).—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 83; Obs. Nom. Wilson's Am. Orn., 1826, [165]; Ann. Lyc. N. Y., ii, 1826, 324; Geog. and Comp. List, 1838, 51.—LESSON, Traité d'Orn., 1831, 552.—AUDUBON, Orn. Biog., iv, 1838, 68, pl. 308.—GOULD, in Darwin's Voy. 'Beagle,' iii, Birds, 1841, 130 (Maldonado, Rio de la Plata).—GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 89.—TSCHUDI, Fauna Peruana, Aves, 1845-46, 25.—HARTLAUB, Index Azara's Apunt., 1847, 25.—GOSSE, Birds Jamaica, 1847, 352.—REICHENBACH, Grallatores, 1850, pl. 75, fig. 583.—CABOT, Naumannia, ii, 1852, 66 (Lake Superior).—WOODHOUSE, in Sitgreaves' Rep. Expl. Zuffi and Col., 1853, 99.—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 295 (Franklin Co., Indiana).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1858, 368; Journ. für Orn., 1860, 261 (Mendoza, Parana and Tucuman, Argentina); Reise La Plata Staat., ii, 1861, 503.—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Mich.).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 63 (Cuba; Colombia; Surinam; Chile).—LÉOTAUD, Ois. Trinidad, 1866, 454.—BRYANT, Proc. Bost. Soc. N. H., xi, 1866, 69 (Bahamas).—FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—SUNDEVALL, Oefv. K. Vet.-Ak. Förh. Stockholm, 1869, 588 (St. Bartholomew), 602 (Porto Rico).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1869, 156 (Tinta and Tungasuca, Peru).—SALVIN, Proc. Zool. Soc. Lond., 1870, 219 (Veragua, Panama); Ibis, 1886, 180 (Brit. Guiana).—PELZELN, Orn. Bras., 1870, 308, 457 (Caicara, Oct.; Matto-grosso, Oct.; Cajutuba).—FINCH, Abh. Nat. Verh. Bremen, iii, 1873, 63 (Aleutian Is., Alaska).—COUES, Check List, 1873, no. 492; 2nd ed., 1882, no. 663; Birds Northwest, 1874, 496; Bull. U. S. Geol. and Geog. Surv. Terr., 1878, 642 (Milk River, Montana, July, Aug.).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 560 (Chorillos and Junin, e. Peru); Orn. du Pérou, iii, 1886, 365 (Callao; Puna Island).—HENSHAW, Zool. Expl. W. 100th Merid., 1874, 458.—BERLEPSCH, Journ. für Orn., 1874, 257 (Santa Catarina, s. e. Brazil; synonymy); 1887, 126 (Paraguay); Ibis, 1884, 441 (Angostura, Venezuela); Novit. Zool., xv, 1908, 306 (Cayenne).—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 351 (Nevada); Rep. N. H. Coll. Alaska, 1887, 117 (Sitka).—REID, Zoologist, 1877, 477 (Bermudas, autumn).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 55 (Point Isabel, Texas, May); Auk, v, 1888, 110 (Corpus Christi, Texas, June 13, July 3).—MAYNARD, Birds E. N. Am., 1879, 394.—ALLEN, Bull. Nutt. Orn. Club, v, 1880, 169 (Santa Lucia); Bull. Am. Mus. N. H., ii, 1889, 109 (Falls of Rio Madeira, Bolivia, Oct.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 548); v, 1883, 534, footnote (San Jose, Lower California, Dec.; Cape San Lucas); vii, 1884, 178 (Sabanilla, Colombia, March); Nom. N. Am. Birds, 1881, no. 548.—CORY, Birds Bahama Is., 1880, 161; Auk, iv, 1887, 317 (West Indian localities and references); viii, 1891, 47 (Antigua); Birds West Ind., 1889, 238; Cat. West Ind. Birds, 1892, 93.—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 386 (Anticosti and Mingan Islands, Gulf of St. Lawrence, breeding; habits).—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Labrador).—NUTTING, Proc.

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- [*Glottis* (*Gambetta*)] *melanoleuca* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).
- Gambetta melanoleuca* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 731; Proc. Ac. Nat. Sci. Phila., xii, 1860, 195 (Cartagena, Colombia).—BAIRD, Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Eagle Pass and San Elizario, Texas); Cat. N. Am. Birds, 1859, no. 539.—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—SCLATER and SALVIN, Ibis, 1859, 229 (Guatemala); Proc. Zool. Soc. Lond., 1868, 144 (Conchitas, Buenos Aires, summer visitant); 1869, 156 (Tinta and Tungasuca, Peru); 1879, 457 (Medellin, Antioquia, Colombia).—SCLATER, Proc. Zool. Soc. Lond., 1860, 253 (Orizaba, Vera Cruz); 1861, 80 (Jamaica); 1867, 339 (Chile); 1886, 404 (Sitana, Tarapaca, Chile).—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 234 (Labrador); xviii, 1866, 98 (Fort Whipple, Arizona); xxiii, 1871, 32 (Fort Macon, North Carolina); Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 295 (New England).—GUNDLACH, Journ. für Orn., 1861, 340 (Cuba); 1871, 294 (Cuba); 1874, 313 (Porto Rico); 1875, 323 (Cuba); 1878, 161 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 354.—BLAKISTON, Ibis, 1862, 9 (Hudson Bay, Aug. to Oct.); 1863, 133 (Fort Charlton, April 18).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine).—VERRILL, Proc. Bost. Soc. N. H., ix, 1862, 139 (Anticosti Island); Proc. Essex Inst., iii, 1862, 152 (Oxford Co., Maine).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 479 (Lion Hill, Panama); viii, 1866, 294 (vicinity New York City); ix, 1869, 141 (San Jose, Costa Rica); Mem. Bost. Soc. N. H., ii, 1874, 309 (Colima, Mexico); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo, Oaxaca, Feb.); Proc. U. S. Nat. Mus., i, 1878, 238 (Antigua, July), 488 (Lesser Antilles).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 68 (Jamaica).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Massachu-

- setts); Bull. Mus. Comp. Zool., ii, 1871, 356 (e. Florida, winter); iii, 1872, 183 (e. Kansas, May; Lake Pass, Colorado; Laramie Plains and Cheyenne, Wyoming, Aug.; Great Salt Lake, Utah, Sept.); iii, 1876, 357 (Moho and Conima, Lake Titicaca); Am. Nat., vi, 1872, 351 (Colorado).—DRESSER, Ibis, 1866, 38 (s. Texas, June).—McILWRAITH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—BROWN, Ibis, 1868, 425 (Vancouver Island).—TURNBULL, Birds E. Penn. and N. J., 1869, 40 (Phila. ed., 31).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292 (Sitka, Alaska).—SALVIN, Proc. Zool. Soc. Lond., 1870, 219 (Chitra, Panama).—ABBOTT, Am. Nat., iv, 1870, 547 (New Jersey, breeding).—STEVENSON, Rep. U. S. Geol. Surv., 1870 (1871), 466 (Camp Reynolds and Fort Fetterman, Wyoming).—WYATT, Ibis, 1871, 383 (La Cruz, Colombia).—TRIPPE, Proc. Bost. Soc. N. H., xv, 1872, 241 (Iowa).—MAYNARD, Proc. Bost. Soc., xiv, 1872, 383 (Cooe Co., N. H.; Oxford Co., Maine, summer).—MERRIAM, Sixth An. Rep. U. S. Geol. Surv., 1872 (1873), 700, 714 (North Fork, Idaho).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 416. —DURNFORD, Ibis, 1877, 199 (Buenos Aires, Argentina).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 162 (Fort Brown, Texas).—BELDING, Proc. U. S. Nat. Mus., i, 1879, 441 (Stockton, California, April, May).—SHARPE, Proc. Zool. Soc. Lond., 1881, 16 (Telchahuano, Chile).—WHITE, Proc. Zool. Soc. Lond., 1882, 628 (Buenos Aires).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 238 (Bermudas, frequent).—BERLEPSCH, Journ. für Orn., 1884, 320 (La Cruz, Colombia).—WITHINGTON, Ibis, 1888, 472 (Lomas de Zamora, Argentina).
- [*Gambetta*] *melanoleuca* PARKER, Amer. Nat., v, 1871, 169 (Clinton Co., Iowa).
- [*Gambetta*] *melanoleuca* BONAPARTE, Compt. Rend., xliii, 1856, 597.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.
- [*Aegialodes*] *melanoleucus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327 (Guiana).
- Scolopax vociferus* WILSON, Am. Orn., vii, 1813, 57, pl. 58, fig. 5 (Atlantic coast, United States).
- [*Scolopax*] *vociferus* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 83 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [165].
- Totanus vociferus* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 401 (Labrador).—SABINE, in Franklin's Journ. Polar Sea, i, 1823, 687.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 389.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 148.—BREWER, Journ. Bost. Soc. N. H., 1837, 437 (Massachusetts); Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—PEABODY, Rep. Orn. Mass., 1839, 369.—AUDUBON, Synopsis, 1839, 244; Birds Am., 8vo. ed., v, 1842, 316, pl. 345.—GIRAUD, Birds Long Island, 1844, 252.—JARDINE, Contr. Orn., 1849, 84 (Bermudas, Oct.—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, Aug. to Nov.).—LEMBEYE, Aves de la Isla de Cuba, 1850, 93.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—PRATTEN, Trans. Ills. Agric. Soc., 1855, 607 (Illinois).—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Massachusetts).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—TRIPPE, Proc. Essex Inst., vi, 1871, 119 (Minnesota).—SCHALOW, Journ. für Orn., 1891, 260 (Sitka, Alaska).
- [*Totanus*] *vociferus* MARTENS, Journ. für Orn., 1859, 218 (Bermudas).
- [*Aegialodes*] *vociferans* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327 (Texas).
- Totanus sasashe* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 412 (Albany Fort, Keewatin; based on *Spotted woodcock*, *Scolopax totanus* Forster, Philae Trans., lxii, 1772, 410).

[*Totanus*] *maculatus* MAXIMILIAN, Beitr. Naturg. Bras., iv, ii, 1833, 727 (Villa Vicosa, Brazil; type now in coll. Am. Mus. Nat. Hist., see Allen, Bull. Am. Mus. N. H., ii, 1889, 271).

Totanus chilensis PHILIPPI, Anales Univers. Chile, xiv, 1857, 182 (Chile); Archiv für Nat., 1857, Bd. i, 264 (Prov. Valparaiso, Chile); Anales Mus. Nac. Chile, Entr. 15 (zool.), 1902, 63, pl. xxix, fig. 1.

(?) *Totanus melanoleucus frazari* BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, Sept., 1902, 65 (San Jose del Cabo, Lower California; coll. W. Brewster).—MÜLLER (W. DeW.), Bull. Am. Mus. N. H., xxi, 1905, 341 (Escuinapa, Sinaloa; crit.).

NEOGLOTTIS FLAVIPES (Gmelin).

YELLOW LEGS.

Practically identical with *N. melanoleuca* in coloration, but much smaller.

Adults in breeding plumage (sexes alike).—Pileum and hindneck streaked with dusky grayish brown or blackish and grayish white; scapulars and interscapulars brownish gray irregularly spotted with dull black and with smaller marginal spots of white or grayish white; tertials brownish gray obliquely barred with black, the gray interspaces becoming whitish on edges; lower back and rump dusky brownish gray; the feathers margined terminally with white; upper tail-coverts white, the larger (posterior) ones broadly barred with dusky, otherwise with fewer and narrower bars or other markings, often nearly immaculate anteriorly; tail white, shaded with brownish gray on middle rectrices, rather broadly barred with dusky, the bars narrower and more broken on lateral rectrices, on inner webs of which they are confined to distal half; anterior lesser wing-coverts dark brownish gray or dusky narrowly margined with white, the more posterior ones with broader white margins and occasional small white spots; middle and greater coverts brownish gray and dusky (either predominating) spotted with paler gray and white; secondaries deep brownish gray, narrowly margined with white; primary coverts and primaries fuscous or fuscous-black, the shorter (proximal) primaries more grayish, narrowly margined with white; shaft of outermost primary pale grayish brown basally, passing into white, or nearly white, distally; sides of head and neck and entire under parts white, the lower breast, abdomen, anal region, and most of under tail-coverts immaculate, the sides of head and neck and fore-neck streaked with dusky, the chest spotted with dusky, and the sides barred with the same; flanks nearly immaculate; lateral and posterior under tail-coverts more or less barred with dusky; anterior half (more or less) of superciliary stripe sparsely and minutely flecked with dusky or, sometimes, nearly immaculate, the posterior portion narrowly but distinctly streaked with dusky; a broad loreal stripe of grayish flecked with dusky, extending from bill to eye; eyelids white;

axillars and under wing-coverts white, the former narrowly barred with brownish gray, the latter barred with darker gray or dusky or with irregular V-shaped marks of the same; inner webs of primaries brownish gray, the proximal portion indistinctly edged with pale gray or grayish white, or minutely freckled with the same; bill black, the basal portion of mandible more brownish; iris dark brown; legs and feet yellow.

Winter plumage.—Upper parts gray, sometimes nearly uniform but usually slightly broken, especially on scapulars and wing-coverts, with transverse spots of dusky and whitish edging or dots along edges of the feathers: head, neck, and chest nearly uniform light gray, the chin, throat, and supraloral stripe white; otherwise as in summer.

Young.—Similar to the winter plumage, but the paler markings on upper parts more or less tinged with dull ochraceous or pale brown or dull clay color.

Adult male.—Wing, 149–163 (153.5); tail, 61–67 (62.8); exposed culmen, 35–38 (36.4); tarsus, 45.5–55.5 (50); middle toe, 27–32 (28.8).^a

Adult female.—Wing, 149.5–157 (155.8); tail, 55–66 (63.2); exposed culmen, 30–39 (35.5); tarsus, 46.5–52 (50.3); middle toe, 28–30 (28.9).^b

Breeding from northern Quebec and southern Saskatchewan (formerly southward to Ontario County, New York, Cook County, Illinois, and Heron Lake, Minnesota?) to southern Ungava, central Keewatin, northern Mackenzie, and northwestern Alaska (Kotzebue Sound and Kowak River); migrating southward over the whole of United States (much less plentifully west of Rocky Mountains), Middle America (including West Indies and Bermudas) and South America to Chile (Santiago; Sacaya, Tarapacá; Huasco; Caracosa) and Patagonia (Chupat Valley; Rio Sengel; Gregory Bay, Straits of Magellan); wintering northward, at least occasionally, to Bahamas.

^a Fifteen specimens.

^b Ten specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Six adult males from Atlantic coast United States (migrants)...	151	62.2	36.4	48.9	28.1
Six adult males from Mackenzie (breeding).....	156.5	63.6	36.4	51.1	29
Three adult males from Alaska (breeding).....	155.1	63.5	36.4	50.8	28.1
FEMALES.					
Four adult females from Atlantic coast United States (migrants)...	155	62.5	35.5	50.5	28.1
Two adult females from Mackenzie (breeding).....	153	60	36	49	28
One adult female from Alaska (breeding).....	163	66	37	53	28.1
Two adult females from Minnesota (1) and Iowa (1) (migrants)...	155	64	33	48.5	28

southern Florida, and Mexico; accidental or casual in British Islands (three records) and in Greenland; not yet recorded from Galápagos Archipelago.

[*Scolopax flavipes* GMELIN, Syst. Nat., i, pt. ii, 1789, 659 (New York; based on *Yellow-shank* Pennant, Arctic Zool., ii, 1785, 468; Latham, Synop. Birds, iii, pt. 1, 1785, 152).—LATHAM, Index Orn., ii, 1790, 723.—TURTON, Syst. Nat., i, 1806, 395.

Scolopax flavipes WILSON, Am. Orn., vii, 1813, 55, pl. 58, fig. 4.

[*Scolopax flavipes* BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 83 (crit.); Obs. Nom. Wilson's Am. Orn., 1826 [165].

Totanus flavipes VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 410.—SABINE, in Franklin's Journ. Polar Sea, i, 1823, 688.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 324; Geog. and Comp. List, 1838, 51.—LICHTENSTEIN, Preis. Verz. Mex. Vög., 1830, 3; Journ. für Orn., 1863, 59 (reprint).—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 390.—LESSON, Traité d'Orn., 1831, 552.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 152.—AUDUBON, Orn. Biog., iii, 1835, 573, pl. 288; v, 1839, 586; Synopsis, 1839, 243; Birds Am. 8vo ed., v, 1842, 313, pl. 344.—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 235.—PEABODY, Rep. Orn. Mass., 1839, 369.—GOULD, in Darwin's Zool. Voy. 'Beagle,' iii, Birds, 1841, 129 (Montevideo; Río de la Plata).—GIRAUD, Birds Long Island, 1844, 250.—GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 100; List Brit. Birds, 1863, 157.—DENNY, Proc. Zool. Soc. Lond., 1847, 39.—GOSSE, Birds Jamaica, 1847, 351.—HARTLAUB, Index Azara Apunt., 1847, 25 (Paraguay).—JARDINE, Contr. Orn., 1849, 84 (Bermudas, Aug.).—REICHENBACH, Grallatores, 1850, pl. 75, fig. 582.—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, Aug. to Sept.).—CABOT, Naumannia, ii, 1852, 66 (Lake Superior).—WOODHOUSE, in Sitgreaves' Rep. Expl. Zuffi and Col., 1853, 99.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—PRATTEN, Trans. Ills. Agric. Soc., 1855, 607 (Illinois).—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 295 (Franklin Co., Indiana).—MÖSCHLER, Journ. für Orn., 1856, 335 (Greenland).—CABANIS, Journ. für Orn., 1856, 351 (Cuba).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 369; Journ. für Orn., 1860, 261 (Mendoza and Parana, Argentina); Reise La Plata-St., ii, 1861, 503.—YARRELL, Hist. Brit. Birds, 3rd ed., ii, 1856, 637.—NEWBERRY, Rep. Pacific R. R. Surv., vi, 1857, 98 (California; Oregon).—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Michigan).—MILNER, Zoologist, 1858, 5957 (England).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—REINHARDT, Ibis, 1861, 11 (Greenland).—GUNDLACH, Journ. für Orn., 1862, 86 (Cuba; crit.).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 69 (Haiti; Surinam; Brazil).—HOY, An. Rep. Smithsonian. Inst. for 1864 (1865), 438 (Missouri).—LÉOTAUD, Ois. Trinidad, 1866, 452.—NEWTON, Proc. Zool. Soc. Lond., 1867, 166, pl. 15, fig. 5 (egg).—BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 69 (Bahamas).—FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—SUNDEVALL, Oefv. K. Vet.-Ak. Förh. Stockholm, 1869, 588 (St. Bartholomew), 602 (Porto Rico).—PELZELN, Orn. Bras., 1870, 309 (Ypanema; Iriaanga, Feb.; Caicara, Sept.; Barra do Rio Negro; Cajutuba).—RODD, Zoologist, vi, 1871, 2807 (Cornwall).—HARTING, Handb. Brit. Birds, 1872, 137 (3 records).—COUES, Check List, 1873, no. 433; 2nd ed., 1882, no. 634; Birds Northwest, 1874, 497; Bull. U. S. Geol. and Geog. Surv. Terr., iv,

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- 308 (Aruba); Novit. Zool., ix, 1902, 307 (Aruba).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 526 (Rio Escondido, Nicaragua).—FIELD, Auk, xi, 1894, 123 (Port Henderson, Jamaica).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 77 (Trinidad).—ELLIOT, N. Am. Shore Birds, 1895, 119, pl. 37.—POYNTING, Eggs Brit. Birds, pt. iv, 1896, 215, pl. 45.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 431, 759.—KOENIGSWALD, Journ. für Orn., 1896, 395 (São Paulo, s. e. Brazil).—LANE, Ibis, 1897, 311 (Huasco, Sacaya, and Caracoea, Chile, breeding!; habits).—HOLMBERG, Segundo censo Argentina, 1898, 569.—IHERING, Revista Mus. Paulista, iii, 1899, 434 (São Sebastião, São Paulo); iv, 1900, 164 (Cantogallo and Novo Fribourgo, São Paulo).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 130 (Altagracia, Orinoco Valley, Jan.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 374.—LOWE, Ibis, 1907, 554 (Margarita I., Venezuela, March).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Barracas al Sud, etc., Argentina, Jan., March, Nov.).—REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, lxxvi, 1910, 94 (Lagoa Boca da Catinga, n. e. Brazil).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 419 (Costa Rica).—DABBENE, Orn. Argentina, 1910, 219 (Chubut, Patagonia; Straits Magellan; Cordoba; Quienta, Jujuy; Buenos Aires).—GRANT (C. H. B.), Ibis, 1911, 469 (Santa Rosa, Paraguay, Aug.; Los Inglesas and near Esquina, Argentina, Nov. to Feb.; Porto Esperança, Brazil, Sept.).—BERTONI, Fauna Parag., 1914, 39.—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 42 (Porto Rico in winter; food).—BARTSCH, Proc. Biol. Soc. Wash., xxx, 1917, 132 (Haiti).
- T[otanus] flavipes* MAXIMILIAN, Beitr. Naturg. Bras., iv, ii, 1833, 723.—TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 312 (Peru).—GRAY, Gen. Birds, iii, 1846, 573.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 757.—GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 223.—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Essex Co., Mass.).—MAXIMILIAN, Journ. für Orn., 1859, 89 (descr., etc.).—TRIPPE, Proc. Essex Inst., vi, 1871, 119 (Minnesota).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 384 (Illinois); Man. N. Am. Birds, 1887, 188.—NELSON, Bull. Essex Inst., viii, 1876, 129, 153 (Cook Co., n. e. Illinois, a few breeding!).—NEWTON (A. and E.), Handb. Jamaica, 1881, 116.—COUES, Key N. Am. Birds, 2nd ed., 1884, 638.—FRENZEL, Journ. für Orn., 1891, 126 (Cordoba, Argentina).
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- [*Totanus*] *flavipes* PELZELN, Orn. Bras., 1870, 457.—GRAY, Hand-list, iii, 1871, 45, no. 10274.—COUES, Key N. Am. Birds, 1872, 259.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 52 (England).—CORY, List Birds West Ind., revised ed., 1886, 27.—BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay).—SHARPE, Hand-list, i, 1899, 160.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 70.
- Totanus flavipes* [typog. error] NELSON, Cruise 'Corwin' in 1881 (1883), 89 (mouth of Yukon River, rare).
- Gambetta flavipes* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 732; Proc. Ac. Nat. Sci. Phila., xii, 1860, 195 (Cartagena, Colombia).—BAIRD, Cat. N. Am. Birds, 1859, no. 540; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Fort Brown, Texas).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico, Aug., Sept.).—SCLATER and SALVIN, Ibis, 1859, 229 (Dueñas, Guatemala); Proc. Zool. Soc. Lond., 1867, 592 (Mexiana Island, Brazil); 1868, 144 (Conchitas, Buenos Aires); 1873, 310 (Chamicuros, e. Peru).—NEWTON (A. and E.), Ibis, 1859, 257 (St. Croix).—SCLATER, Proc. Zool. Soc. Lond., 1859, 393 (Playa Vicente, Vera Cruz); 1860, 290 (Babahoyo, w. Ecuador); 1867, 339 (Chile); 1886, 404 (Sacaya, Tarapaca, Chile); Ibis, 1862, 277 (Europe).—BARNARD, An. Rep. Smithsonian Inst. for 1860 (1861), 438 (Chester Co., Pennsylvania).—BLAKISTON, Ibis, 1862, 9 (Saskatchewan); 1863, 133

- (Mackenzie River).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine).—LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 334 (Lion Hill, Panama); viii, 1864, 100 (Sombbrero); ix, 1869, 141 (San Jose, Costa Rica), 210 (Progreso, Yucatan); Mem. Bost. Soc. N. H., ii, 1874, 309 (Maratlan, Sinaloa); Bull. U. S. Nat. Mus., no. 4, 1876, 47 (San Mateo, Oaxaca, Feb.). Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent), 242 (Barbuda).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 61 (Jamaica).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Massachusetts); Am. Nat., vi, 1872, 267 (near Leavenworth, Kansas), 351 (near Colorado City, Colo.); Bull. Essex Inst., viii, 1876, 83 (Marajo, lower Amazon, Aug. 10-20); Bull. Mus. Comp. Zool., ii, 1871, 356 (e. Florida, winter); iii, 1872, 182 (Lake Pass, Colorado, Aug.; Ogden, Utah, Sept.); iii, 1876, 357 (Moho, Lake Titicaca).—DRESSER, Ibis, 1866, 38 (s. Texas).—McILWRAITH, Proc. Essex Inst., v, 1866, 93 (Hamilton, Ontario).—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 354; Journ. für Orn., 1875, 324 (Cuba); Anal. Soc. Esp. Hist. Nat., vii, 1878, 371 (Porto Rico).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 122 (South Carolina); Proc. Essex Inst., v, 1868, 295 (New England); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 32 (Fort Macon, North Carolina).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292 (Fort Yukon; Nulato; Kadiak; Sitka).—TURNBULL, Birds E. Penn. and N. J., 1869, 41 (Phila. ed., 32).—ABBOTT, Am. Nat., iv, 1870, 547 (New Jersey, breeding).—STEVENSON, Rep. U. S. Geol. Surv. Terr., 1870 (1871), 466 (Camp Reynolds, Camp Logan, Wyoming).—MAYNARD, Proc. Bost. Soc. N. H., xiv, 1872, 383 (Umbagog and Norway, Maine).—MERRIAM, Sixth An. Rep. U. S. Geol. Surv. Terr., 1872 (1873), 714 (Utah).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England, migrant).—DURNFORD, Ibis, 1876, 164 (Buenos Aires); 1877, 43 (Chupat Valley, Patagonia), 199 (Buenos Aires, migrant and resident); 1878, 404 (Rio Sengal, centr. Patagonia).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 238 (Bermudas, frequent).—BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 119 (Bahahoyo, w. Ecuador).
- [*Glottis (Gambetta)*] *flavipes* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).
G[ambetta] flavipes VERRILL, Proc. Essex Inst., iii, 1862, 152 (Lake Umbagog, Maine; breeding?).—PARKER, Amer. Nat., v, 1871, 169 (Clinton Co., Iowa).
 [*Gambetta*] *flavipes* BONAPARTE, Compt. Rend., xliii, 1856, 597.—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 145.—GUNDLACH, Journ. für Orn., 1874, 313 (Porto Rico); 1878, 161 (Porto Rico).
- Heteroscelus flavipes* BOUCARD, Liste Ois. récol. Guat., 1878, 16.
 [*Aegialodes*] *flavipes* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327.
Totanus natator VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 400.
Totanus fuscocapillus VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 400 (Paraguay, based on *Chorlito pardo mayor* Azara, Apunt. Parag., iii, 1803, 314).
Totanus stagnatilis (not of Bechstein) GAY, Faun. Chil., Zool., 1847, 422.

Genus TOTANUS Bechstein.

- Totanus* BECHSTEIN, Orn. Taschenb. Deutschl., ii, 1803, 282. (Type, by tautonymy, *T. maculatus* Bechstein=*Scolopax totanus* Linnæus.)
Carites^a BILLBERG, Synop. Faunae Scand., i, pt. 2, 1828, tab. A and p. 143. (New name for *Totanus* Bechstein; see Richmond, Proc. U. S. Nat. Mus., xxxv, 1908, 596.)
Gambetta (not of Koch, 1816) KAUP, Naturl. Syst., 1829, 54. (Type, *Tringa calidris* Linnæus=*Scolopax totanus* Linnæus.)

^a *Kapirns, eques*; gallicum Chevalier. (Billberg.)

Aegialodes ^a HEINE, in Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 327.
(New name for *Gambetta* Kaup, not Koch, on grounds of purism.)

Medium-sized *Tringinae* (wing 144–160 mm.) with exposed culmen nearly as long as tarsus, the latter a little more than one and a half times as long as middle toe without claw, and with secondaries white.

Bill rather slender, straight, its depth at base equal to less than one-seventh the length of exposed culmen, the latter nearly as long as tarsus; nasal groove rather broad, extending halfway to tip of maxilla; nostril basal (very nearly in contact with loreal antia), slit-like, overhung by a membrane. Wing rather long, pointed, the longest primary (outermost) exceeding secondaries by about one-fourth the length of wing. Tail much more than one-third as long as wing, truncate; rectrices, 12. Tarsus nearly to quite one-third as long as wing, scutellate anteriorly and posteriorly; bare portion of tibia more than half the length of the tarsus, scutellate anteriorly and posteriorly; a distinct web uniting basal phalanges of outer and middle toes, and a much smaller web between inner and middle toes.

Coloration.—Under parts, upper tail-coverts, and rump mostly white; secondaries white and proximal primaries broadly tipped with white.

Range.—Palearctic Region. (Monotypic.)

TOTANUS TOTANUS (Linnaeus).

RED-SHANK.

Adults in summer (sexes alike).—Above grayish brown (between light hair brown and drab), the pileum and hindneck streaked with blackish, the back and scapulars streaked or irregularly marbled with the same, the markings assuming a more transverse form (often that of regular bars) on posterior scapulars and tertials; smaller wing-coverts mostly grayish brown, like back, etc., indistinctly margined with paler, the middle and greater coverts similar but usually more or less barred with dusky and whitish; secondaries with terminal half (approximately) white, sometimes with a few concealed dusky bars, the basal portion barred with dusky and white or brownish gray; alulae, primary coverts, and longer (distal) primaries dusky or dull black, the innermost (proximal) primaries extensively white distally, irregularly barred or vermiculated with dusky; shaft of outermost primary white, of the others dusky; lower back and rump white, sometimes nearly immaculate but usually sparsely lecked, at least beneath the surface, with grayish or dusky; upper tail-coverts and tail white, barred with dusky, the middle pair of rectrices more or less tinged with brownish gray; an orbital ring of dull white, interrupted at anterior angle of eye; sides of head and

^a Αἰγιάλωδης, found on or near the shore. (Richmond.)

neck white more or less tinged or suffused with pale brownish gray, narrowly but distinctly streaked with dusky, the loreal region with dusky predominating, at least anteriorly and next to eye; sometimes nearly uniform dusky; chin, throat, foreneck, and remaining under parts white, the chin and throat longitudinally flecked, the foreneck broadly streaked, the chest and breast (sometimes upper abdomen also) longitudinally spotted with dusky, the sides, flanks, and under tail-coverts irregularly barred with the same; lower abdomen and anal region sometimes nearly immaculate white, but usually more or less distinctly spotted or flecked with dusky; axillars and under wing-coverts white, more or less barred, irregularly and narrowly, with dusky but sometimes nearly immaculate except the coverts near edge of wing; bill dusky terminally, reddish or brownish basally, especially on mandible; iris dark brown; legs and feet pale brownish (orange-red in life).

Winter plumage.—Pileum, hindneck, back, scapulars, and tertials plain brownish gray, or with the blackish markings of the summer plumage very slightly indicated, the posterior scapulars, etc., sometimes narrowly margined with white terminally; under parts with much fewer dusky markings, the chin, throat, breast, abdomen, and anal region mostly (sometimes wholly) immaculate white, the foreneck and chest narrowly streaked with dusky or grayish; otherwise as in summer.

Young.—Somewhat like winter adults, but general color of upper parts darker, the pileum and nape streaked with dusky, the scapulars and interscapulars rather broadly margined with pale brownish buffy, the wing-coverts margined and spotted with buffy and whitish.

Downy young.—"Reddish above, longitudinally streaked with black; the sides of the crown and sides of the face buff, with a black line through the eye; the center of the crown rufous, with a median line of black, the nape and hindneck for the most part black; down the back a central line of black, mesially mottled with buff, and on each side of the back a broad line of pale buff intersected by a line of black."^a

Adult male.—Wing, 148–159 (152.9); tail, 62.5–69 (65); exposed culmen, 39.5–46.5 (42.7); tarsus, 45–51 (47.6); middle toe, 28–30 (28.7).^b

Adult female.—Wing, 144–160 (153); tail, 57–63 (62.7); exposed culmen, 39–45 (42.1); tarsus, 43–51 (46.8); middle toe, 26.5–28.5 (27.7).^c

Breeding throughout Europe (including Iceland), and eastward to eastern Siberia; migrating southward to southern Africa, India, Burma, and Malay Archipelago (Borneo; Java; Celebes; Sumatra).

^a Sharpe, Cat. Birds Brit. Mus., xxiv, 418, 419.

^b Ten specimens, from Europe. ^c Seven specimens, from Europe.

Ceylon), Philippines, Formosa, etc.; accidental in eastern Greenland (Kilitorajivit on Angmagsalik Fjord) and on western shore of Hudson Bay?

[*Scolopax*] *totanus* LINNÆUS, Syst. Nat., ed. 10, i 1758, 145 (Sweden).—LATHAM, Index Orn., ii, 1790, 721 (England).

Scolopax totanus VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 247, 248.

Totanus totanus COUES, Auk, xiv, April, 1897, 212 (Hudson Bay, fide Swainson).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 128; xxix, 1912, 381 (causal in Greenland); Check List, 3rd ed., 1910, 371.—GRONBERGER, Auk, xxix, 1912, 110 (Kilitorajivit, Anmagsalik Fjord, Greenland).

[*Scolopax*] *calidris* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 245 (Sweden).—GMELIN, Syst. Nat., i, pt. ii, 1789, 664.—LATHAM, Index Orn., ii, 1790, 722 (Europe; America).—*Scolopax calidris* TEMMINCK, Cat. Syst., 1807, 170.

Totanus calidris BECHSTEIN, Orn. Taschenb., ii, 1803, 284.—TEMMINCK, Man. d'Orn., 1815, 415; ii, 1820, 643.—LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 31.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 404.—NILSSON, Orn. Suec., ii, 1821, 62.—ROUX, Orn. Prov., 1825, pl. 294.—WERNER, Atlas, Grall., 1827, pl. 22.—FLEMING, Brit. Anim., 1828, 102.—LESSON, Traité d'Orn., 1831, 552.—BREHM, Vög. Deutschl., 1831, 637.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 391 (Hudson Bay).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 155 (Hudson Bay).—NAUMANN, Vög. Deutschl., viii, 1836, 95, pl. 199.—GOULD, Birds Europe, iv, 1837, 310; Birds Great Brit., iv, 1871, pl. 54 and text.—BONAPARTE, Geog. and Comp. List, 1838, 51.—SELYS-LONGCHAMPS, Faune Belge, 1842, 128.—MÜHLE, Beitr. Orn. Griechenl., 1844, 100.—GRAY, List Birds Brit. Mus., Grall., 1844, 100; Cat. Mam., etc., Nepal pres. Hodgson, 1846, 139; Cat. Brit. Birds, 1863, 158.—HEWITSON, Eggs Brit. Birds, ii, 1846, 289, pl. 80.—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 266.—REICHENBACH, Handb., Grallatores, 1850, pl. 75, figs. 580, 581.—THOMPSON, Birds Ireland, ii, 1850, 202.—MIDDENDORFF, Reis. Sibir., Zool., 1851, 205 (Okotak, Aug.).—KJÆRBØLLING, Danm. Fugle, 1851, pl. 36, fig. 5.—MACGILLIVRAY, Brit. Birds, iv, 1852, 333.—SCHLEGEL, Vög. Nederl., 1854, pls. 243, 244; Mus. Pays-Bas, v (Scolopaces), 1864, 65 (Borneo; Java; Celebes).—HARTLAUB, Orn. W.-Afr., 1857, 234 (Ashanti).—SUNDEVAL, Sv. Fogl., 1860, pl. 40, figs. 3, 4.—LINDERMAYER, Vög. Griechenl., 1860, 138.—SWINHOE, Ibis, 1861, 363 (n. China, Aug. to Dec.); 1862, 254 (Foochow, China); 1863, 407 (Formosa, Sept.); 1865, 347 (Takow, China); 1870, 364 (Hainan); Proc. Zool. Soc. Lond., 1862, 320 (Tientsin, China).—NEWTON, in Baring-Gould's Iceland, 1863, 412.—RADDE, Reis. Sibir., Vög., 1863, 328 (Lake Baikal, Aug., Sept.).—JERDON, Birds India, iii, 1864, 702.—PELZELN, Reis. 'Novara,' Vög., 1865, 126 (Nicobar Islands).—FILIPPI, Viagg. Persia, 1865, 251.—LAYARD, Birds S. Afr., 1867, 324.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 218.—COLLETT, Norges Fuglef., 1868, 55; ed. 1881, 102.—BLANFORD, Geol. and Zool. Abyssinia, 1870, 433 (Red Sea, Jan.).—FRITSCH, Vög. Eur., 1870, pl. 34, figs. 4, 6.—SALVADORI, Faun. Ital., Ucc., 1871, 220; Ucc. Born., 1874, 328; Elenco Ucc. Ital., 1886, 226; Proc. Zool. Soc. Lond., 1887, 587 (Olga Bay, Korea).—SAUNDERS, Ibis, 1871, 387 (Andalusia, Spain, breeding); ed. Yarrell's Brit. Birds, iii, 1883, 469; Man. Brit. Birds, 1889, 601.—SHELLEY, Birds Egypt, 1872, 255.—GURNEY, in Andersson's Birds Damara-Land, 1872, 300 (Lake N'gami).—SHEARPE, Ibis, 1872, 74 (Nagua River and Ashantee, w. Africa); ed. Layard's Birds S. Africa, 1884, 688; Cat. Birds Brit. Mus., xxiv, 1896, 414, 758.—WALDEN, Trans. Zool. Soc. Lond., viii, 1872, 97 (Celebes).—HEUGLIN, Orn. N. O.-Afr., ii, pt. 1, 1873, 1165.—PALMÉN, Finl. Fogl., 1873, 150.—SEVERTZOW, Turkestan. Jevotn., 1873, 69.—DRESSER, Birds Europe, viii, 1875,

- 157, pl. 568, fig. 1, pl. 569, fig. 2.—BLANFORD, East. Persia, ii, 1876, 285.—DAVID and OUSTALET, Ois. Chine, 1877, 464.—LEGGE, Birds Ceylon, 1880, 852.—BOCAGE, Orn. Angola, 1881, 466.—BLAKISTON and PRYER, Birds Japan, 1882, 109.—SEEBOHM, Ibis, 1883, 30 (Caucasus, breeding); Hist. Brit. Birds, iii, 1885, 140, pl. 32, figs. 1-3 (eggs); Geog. Dist. Charadriidae, 1888, 353; Birds Japan. Emp., 1890, 320.—OATES, Handb. Birds Brit. Burma, ii, 1883, 404.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 176.—GIGLIOLI, Icon. Avif. Ital., 1886, no. 295; Avif. Ital., 1886, 397, Avif. Ital., 1st Resoc., 1889, 632; 2d Resoc., 1890, 662; 3rd Resoc., 1891, 517.—RADDE, Orn. Caucas., 1884, 45, 432 (Tiflis, breeding at 6,300 ft.).—BOGDANOW, Conspect. Av. Imp. Ross. 1884, 96.—TRISTRAM, Flora and Fauna Palestine, 1884, 134.—HARVIE-BROWN and BUCKLEY, Vertebr. Fauna Caithness, 1887, 223; Vertebr. Fauna Outer Hebrides, 1888, 135; Vertebr. Fauna Argyll and Inner Hebrides, 1892, 181.—REICHENOW, Verz. Vög. Deutschl., 1889, 47.—FRIVALDSKY, Avif. Hung., 1891, 140.—BUCKLEY and HARVIE-BROWN, Vertebr. Fauna Orkney Isl., 1891, 219.—GÄTKE, Vogelw. Helgoland, 1891, 507.—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 217, pl. 46.—PEARSON, Ibis, 1896, 212 (Russian Lapland; descr. eggs).—ROTHSCHILD, Novit. Zool., ix, 1902, 161 (Ankhan, Russian Turkestan).—HARTERT, Novit. Zool., ix, 1902, 218 (Deli, Sumatra).—HENNINGER, Auk, xxviii, 1911, 492 (e. Greenland).
- [*Totanus*] *calidris* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxii, 211.
- [*Totanus*] *calidris* GRAY, Hand-list, iii, 1871, 45, no. 10272.—SHARPE, Hand-list, i, 1890, 160.
- Gambetta calidris* KAUP, Natürl. Syst., 1829, 54.—TRISTRAM, Ibis, 1860, 80 (Algeria).—LOCHE, Expl. Sci. Algér, Ois., 1867, 321.
- Tringa calidris* ADAMS, Ibis, 1864, 33 (Alexandria, Egypt, Feb.).—WRIGHT, Ibis, 1864, 146 (Malta, Sept.-April).
- [*Aegialodes*] *calidris* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327.
- [*Tringa*] *striata* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 248 (Europe).—GMELIN, Syst. Nat., i, pt. ii, 1789, 672.
- Totanus striatus* BREHM, Vög. Deutschl., 1831, 637.
- Totanus littoralis* BREHM, Vög. Deutschl., 1831, 636.
- Totanus graecus* BREHM, Vogelf., 1855, 312.
- Totanus meridionalis* BREHM, Vogelfang, 1855, 312 (Central Africa); Naumannia, 1855, 292.
- Totanus fuscus* (not of Leisler) SWINHOE, Ibis, 1866, 295 (Formosa).

Genus RHYACOPHILUS Kaup.

Rhyacophilus KAUP Natürl. Syst., 1829, 140. (Type, *Tringa glareola* LINNÆUS.)

Small Tringinae (wing 115-126 mm.) closely resembling *Tringa* but bill relatively shorter (exposed culmen much shorter than tarsus), nasal groove broader, and metasternum 4-notched.

Bill straight and slender, its depth at base equal to about one-eighth the length of exposed culmen, the latter about three-fourths as long as tarsus, or a little more; nasal groove broad, extending about halfway to tip of maxilla; wing rather long, the longest primary (outermost) exceeding distal secondaries by less than half the length of wing; tips of longest tertials reaching nearly to tip of longest primary. Tail between one-third and one-half as long as wing, truncate or nearly so, but middle pair of rectrices slightly but abruptly longer than the rest; rectrices 12. Tarsus about one and a half times as long as middle

toe without claw, decidedly less than one-third as long as wing, scutellate anteriorly and posteriorly; bare portion of tibia about as long as lateral toes, scutellate before and behind; outer toe slightly longer than inner toe, both decidedly shorter than middle toe; a very small web between basal phalanges of outer and middle toes, but none between inner and middle toes.

Coloration.—Under parts and upper tail-coverts mostly white; upper parts grayish brown, in summer blotched with blackish and speckled with whitish, the young speckled with brownish or rusty white only; head and neck streaked with grayish white and dusky; tail barred with dark grayish brown and white.

Range.—Palearctic Region (casual in Alaska). (Monotypic.)

RHYACOPHILUS GLAREOLA (Linnaeus).

WOOD SANDPIPER.

Adults in summer (sexes alike).—Pileum dusky, streaked with grayish white; hindneck grayish white (usually shaded with brownish gray along median line), narrowly streaked with dusky; back and scapulars brownish gray irregularly spotted (for the most part transversely) with blackish and with less numerous, mostly transverse or triangular, spots of dull whitish; rump darker brownish gray, the feathers narrowly margined with white; lesser wing-coverts nearly uniform dusky brownish gray, the middle coverts similar but with larger dusky and smaller dull whitish or pale grayish irregular spots, especially on proximal coverts; greater coverts and secondaries dusky brownish gray, very narrowly (sometimes indistinctly) edged with whitish; tertials brownish gray, broadly barred with blackish, the grayish interspaces becoming whitish on edges of feathers; alula, primary coverts, and primaries dull blackish or dusky, the shaft of outermost primary white; upper tail-coverts white, mostly immaculate, but the longer ones with a few dusky streaks, spots, or bars; tail barred with white and dusky, the former predominating on lateral rectrices, the latter on middle ones; a broad white supraloral stripe or spot, and beneath this a dusky loreal streak, distinct and unbroken anteriorly; sides of head beneath eyes white or grayish white, narrowly streaked with dusky; chin and throat immaculate white; fore-neck white narrowly streaked with dusky; chest white to pale brownish gray (usually more grayish laterally), spotted and barred with dusky (less so on post-median portion); rest of under parts white, the sides (sometimes flanks also) irregularly barred with dusky brownish gray, the under tail-coverts with irregular bars or other markings of the same; axillars and under wing-coverts white, the former with irregular narrow bars, the latter with variously shaped markings of brownish gray; bill black, becoming more brownish (olive in life) basally; iris dark brown; legs and feet

dusky brownish (olive-greenish, grayish olive or grayish green in life).

Winter plumage.—Pileum, hindneck, back, scapulars, and wing-coverts nearly uniform brownish gray, the upper parts without distinct, if any, blackish spots; foreneck and chest very pale brownish gray (usually white or nearly so medially) indistinctly streaked with brownish gray; otherwise essentially as in summer.

Young.—"Differs from the adults in being closely spotted on the upper surface, but the spots are more or less rufescent; the lower throat and chest are ashy as in the winter plumage of the adults, but the dusky-brown stripes are very distinct and are also visible on the sides of the body; the axillaries are pure white, or with the merest trace of frecklings of brown."^a

Downy young.—Forehead, sides of head and neck (including a broad superciliary stripe) and under parts dull grayish white or brownish white, more or less tinged, especially on head, with pale brownish gray; a sharply defined narrow loreal streak of black, extending from bill to eye; a postocular streak of black, narrow anteriorly, much broader posteriorly; forehead with a median narrow stripe of mixed black and brownish gray; crown sooty blackish laterally (broadly), light grayish brown medially; occiput sooty blackish laterally, with a pair of oblique spots of pale buffy grayish, the black extending as a stripe down median portion of nape and hindneck; general color of upper parts sooty black or dark sooty brown, slightly intermixed with light buffy brown or drab, the rump with a median rather broad stripe of sooty black and two lateral narrow stripes of pale grayish buff or dull buffy whitish.

Adult male.—Wing, 115–123.5 (118.8); tail, 43.5–51 (46.8); exposed culmen, 25–32 (28.1); tarsus, 33–41 (36.6); middle toe, 25–28 (26.8).^b

Adult female.—Wing, 117–125.5 (120.4); tail, 47–53.5 (49.6); exposed culmen, 28–30.5 (29.2); tarsus, 35–41 (37.6); middle toe, 25.5–32 (28.2).^c

^a Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 495.

^b Ten specimens.

^c Eleven specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Four adult males from Europe (one from Aldabra Island).....	119	46.1	26.8	35	24
Six adult males from eastern and southwestern Asia.....	118.7	47.3	28.7	37.7	21.1
FEMALES.					
Two adult females from Europe.....	120.2	47.5	29.5	37	21
Eight adult females from eastern Asia.....	120.4	50.2	29	37.8	21
One adult female from Alaska (Sanak Island, Aleutian chain).....	120.6	48.5	29.7	37.1	22

Breeding in northern Europe and Asia, from the Faroe Islands to the Commander Islands, Kamchatka, in Siberia at least as far northward as Lat. 70° N.; migrating southward over whole of Europe, Africa, and Asia, to Cape Colony, southern Arabia, India, Burma, Malay Peninsula and Malay Archipelago, Philippine Islands, Formosa, Ceylon, Borneo, etc., and even to Australia; accidental in Alaska (Sanak Island, Aleutian chain, May 27, 1894).

[*Tringa glareola* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 149 (Sweden).—GMELIN, Syst. Nat., i, pt. ii, 1789, 677.—LATHAM, Index Orn., ii, 1790, 730.

Tringa glareola MEYER and WOLF, Taschenb., ii, 1810, 387.—MEYER, Vög. Liv-u. Esthl., 1815, 203.—YARRELL, Hist. Brit. Birds, ii, 1843, 534.—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 19 (Nijni Kolymak, e. Siberia, breeding; crit.); Auk, xxxiii, 1916, 45 (Saghalin Island, May).—MATHEWS, Birds Australia, iii, 1913, pl. [156] facing p. 230.—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 380 (Copper Island, May 24).

[*Tringa ocropus*] β. LINNÆUS, Syst. Nat., ed. 12, i, 1766, 250.

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- Tringa grallatoris* a MONTAGU, Orn. Dict., Suppl., 1813, App., p. 8 (coast of s. Devon, August).
- Totanus grallatoris* STEPHENS, Shaw's Gen. Zool., xii, 1824, 148.
- Trynca littorea* (not *Tringa littorea* Linnæus) PALLAS, Zoog. Rosso-Asiat., ii, 1826, 195.
- Totanus affinis* HORSFIELD, Trans. Linn. Soc., xiii, 1821, 191 (Java; type now in coll. Brit. Mus.).—GRAY and HARDWICKE, Illustr. Indian Zool., ii, 1832, pl. 51, fig. 2.—SCLATER, Proc. Zool. Soc. Lond., 1863, 222 (s. e. Borneo).—WALLACE, Proc. Zool. Soc. Lond., 1863, 487 (Timor).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 311; Ibis, 1866, 294 (Formosa).
- [*Rhynchophilus*] *affinis* BONAPARTE, Compt. Rend., xliii, 1856, 597.
- Rhyacophilus glareola affinis* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 230.
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- Totanus palustris* BREHM, Vög. Deutschl., 1831, 639 (Germany).
- Totanus kuhlii* BREHM, Vög. Deutschl., 1831, 641 (Java); Vogelf., 1855, 312, footnote.
- T[*otanus*] *glareoides* HODGSON, in Gray's Zool. Misc., 1844, 86 (Nepal; *nomen nudum*).
- T[*otanus*] *glareoloides* JERDON, Birds India, iii, 1864, 697 (in synonymy).

Genus TRINGA Linnæus.

- Tringa* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148. (Type, by tautonymy, *Tringa ocropus* Linnæus.)
- Helodromas* KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, 144. (Type, by monotypy, *Tringa ocropus* Linnæus.)

Small *Tringine* (wing 121–145 mm.) closely resembling *Rhyacophilus* but with tarsus much less than one and a half (only about one and one-sixth) times as long as middle toe with claw, bare portion of tibia only about half as long as middle toe with claw, exposed culmen as long as or longer than tarsus, and metasternum 2-notched (instead of 4-notched).

Bill straight and slender, as long as or longer than tarsus, the nasal groove extending halfway or more to tip of maxilla. Wing long and

a Corrected to *grallatoria* in errata.

pointed, the longest primary (outermost) exceeding distal secondaries by about one-half the length of wing; longest tertials with tips tapering, obtusely pointed. Tail much more than one-third as long as wing, truncate or slightly rounded, the rectrices (12) rather broad, with rounded tips. Tarsus much less than one and a half (only about one and one-sixth) times as long as middle toe with claw, one-fourth as long as wing, scutellate anteriorly and posteriorly; bare portion of tibia about half as long as middle toe with claw, scutellate before and behind; lateral toes decidedly shorter than middle toe, the inner decidedly shorter than the outer; a small web between basal phalanges of outer and middle toes, but none between middle and outer toes.

Coloration.—Deep brownish gray above, more or less flecked or dotted with white; tail barred with white and dusky (upper tail-coverts immaculate white in one species); under parts white, streaked with dusky or grayish on foreneck, etc.

Range.—Northern Hemisphere. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF TRINGA.

- a. Upper tail-coverts white, nearly (sometimes quite) immaculate; middle rectrices broadly barred with white. (Northern Europe and Asia, migrating southward; accidental in Nova Scotia.)..... *Tringa ocropus* (p. 353).
- aa. Upper tail-coverts dusky, barred with white; middle rectrices dusky, spotted along edges with white. (*Tringa solitaria*.)
 - b. Summer adults with upper parts much more distinctly spotted with white; young with spotting on upper parts white or grayish white; white bars on tail averaging wider, the middle pair of rectrices never (?) wholly grayish brown. (Eastern North America; South America, etc., in winter.)
 - Tringa solitaria solitaria* (p. 358).
 - bb. Summer adults with upper parts much less distinctly spotted with white; young with spotting of upper parts brownish buffy or cinnamonaceous; white bars on tail averaging narrower, the middle pair of rectrices often (usually?) wholly deep grayish brown. (Western North America; Mexico, etc., in winter.)..... *Tringa solitaria cinnamomea* (p. 363).

TRINGA OCROPHUS Linnaeus.

GREEN SANDPIPER.

Adults in summer (sexes alike).—Above deep grayish olive or deep grayish brown (nearest chætura drab), the pileum and hindneck streaked with grayish white, the scapulars, interscapulars, and tertials spotted with dull white, the proximal wing-coverts with much smaller spots of whitish; alula, primary coverts, and primaries plain dusky grayish brown (blackish fuscous or chætura black), including shafts, that of outermost primary, however, lighter brown; lower rump and upper tail-coverts immaculate white (the latter occasionally with a few dusky bars); tail mostly white, the outermost rectrices entirely white or white only one or two spots of dusky on, distal portion of outer web, the others barred distally with dusky

this increasing toward the middle pair of rectrices, which, for the exposed portion, are dusky barred with white—the next to outermost pair, however, without any dusky on inner web, and with only one or two dusky spots near end of outer web; a white supraloral stripe, extending to above eyes; lores streaked or flecked with dusky, sometimes with a dusky line from bill to eye; suborbital and malar regions white, more or less streaked with dusky; chin and throat immaculate white, the lower throat, however, usually more or less streaked or flecked with dusky; foreneck and chest white, rather broadly streaked with dusky, the lower chest, especially laterally, usually with markings more irregular, often V-shaped or more or less transverse; rest of under parts immaculate white; axillars and under wing-coverts deep grayish brown (like back, etc.), narrowly barred with white; bill black, slightly more brownish basally; iris dark brown; legs and feet greenish gray or bluish gray, tinged with greenish (in life).

Winter plumage.—Similar to the summer plumage, but pileum and hindneck plain brownish gray (sometimes indistinctly streaked with darker), back, scapulars, and tertials with much smaller and, usually, fewer spots, mostly along edges of the feathers, and chest and sides of neck nearly uniform brownish gray, the foreneck and median portion of chest rather less distinctly streaked than in summer.

Young.—Similar to the winter plumage, but spotting of upper parts more brownish.

Adult male.—Wing, 132–145 (136.7); tail, 55–60 (57.6); exposed culmen, 30–36 (33.7); tarsus, 30.5–36 (33.3); middle toe, 24–29 (26.2).^a

Adult female.—Wing, 134–144 (140.2); tail, 57–63 (60.5); exposed culmen, 31.5–36.5 (34.4); tarsus, 31–35 (32.9); middle toe, 25–28 (26.3).^b

^a Seven specimens.		^b Ten specimens.			
Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Greece.....	145	60	34	34.5	27
Three adult males from India.....	135.7	57.7	34.7	33	25.7
Three adult males from China.....	135	56.7	32.7	32.2	26.5
FEMALES.					
Three adult females from Europe (including 1 from Egypt)....	137	59.3	32.8	31.7	26
One adult female from India.....	144	62	36	35	28
Six adult females from China (4) and Japan (2).....	141.2	60.8	35	32.9	26.1

According to Mathews (Birds of Australia, iii, pt. 2, May 2, 1913, 203) the birds from eastern Asia are separable as a subspecies (*Tringa ocropus assami* Mathews), which breeds in Siberia and migrates southward as far as the Malay Archipelago.

Breeding in northern Europe and Asia, and in higher mountains farther southward (Pyrenees, Alps, Carpathians, Caucasus, Alai Mountains, Pamir Range, etc.); migrating southward to southern Africa, India, Burma, Malay Archipelago, Cochin China, Ceylon, etc.; wintering thence northward to southern Europe and China; accidental in northeastern North America (Halifax, Nova Scotia; Hudson Bay?).

[*Tringa ocropus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 149 (Sweden); ed. 12, i, 1766, 250.

Helodromas ocropus AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, 121.

[*Tringa ochropus* GMELIN, Syst. Nat., i, pt. ii, 1789, 676.—LATHAM, Index Orn., ii, 1790, 729.—TURTON, Syst. Nat., i, 1806, 407.

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[*Helodromas*] *leucurus* BONAPARTE, Compt. Rend., xliii, 1856, 597.

Helodromas ochrophus assami MATHEWS, Birds Australia, iii, pt. 2, May 2, 1913, 203 (Siberia; south in winter to Malay Archipelago).

TRINGA SOLITARIA SOLITARIA Wilson.

SOLITARY SANDPIPER.

Adults in summer (sexes alike).—General color of upper parts deep grayish brown, with an olivaceous cast, the pileum and hindneck narrowly and indistinctly streaked with whitish, the back, scapulars, and wing-coverts rather sparsely speckled with the same, the upper tail-coverts barred with white; primary coverts and primaries dull slate-blackish or dusky; middle rectrices dusky grayish brown, dotted or spotted along edges with white, the rest of tail white, broadly barred with dusky, the bars more numerous on outer webs, where extending to the base of the rectrices; eyelids, supraloral stripe, and under parts white; sides of head (except as described), sides of neck, foreneck, and chest streaked with dusky grayish brown; axillars and under wing-coverts slate color, regularly and broadly barred with white; bill blackish terminally, greenish horn color (in life) basally; iris dark brown; legs and feet olive-greenish (in life).

Winter plumage.—Similar to the summer plumage but upper parts more grayish and less distinctly speckled with white; foreneck, chest, etc., very indistinctly streaked, or simply washed, with grayish.

Young.—Above grayish brown (lighter and more olivaceous than in adults), thickly speckled with white or buffy whitish; pileum and hindneck plain brownish gray; sides of head and neck nearly uniform gray, the foreneck, however, streaked with darker.

Adult male.—Wing, 121.5–129.5 (126.5); tail, 50–57 (53.7); exposed culmen, 27–30.5 (28.8); tarsus, 28–31 (29.9); middle toe, 24–26 (24.7).^a

^a Eleven specimens.

Adult female.—Wing, 126–134 (127.8); tail, 52–59 (55.4); exposed culmen, 28–32 (29.3); tarsus, 27–32.5 (29.4); middle toe, 24–26 (25.1).^a

Breeding from western Pennsylvania (Beaver County), Ontario (Simcoe Island), northern Indiana (Wabash County), northeastern Illinois (Cook and Lake Counties), Iowa, Minnesota (Becker County), etc., northward to Newfoundland (?), northern Ungava, central Keewatin, etc.; migrating southward, over United States east of Rocky Mountains, through West Indies, Bermudas (probably also along Gulf and Caribbean coasts of Mexico and Central America) to Argentina (El Rancho; Estancia Espartilla; lower Rio Pilcomayo; Santa Ana; Orán, Salta; Barracas al Sud), Uruguay (Concepción; Santa Elena; Montevideo), and Paraguay (Monte Alta; Porto Esperanca; Riacho; Sapucay; upper Rio Paraná); accidental in Greenland and Scotland (Lanarkshire).

[*Totanus ochropus*] β LATHAM, Index Orn., ii, 1790, 730 (King Georges Sound; based on *Green Sandpiper*, Var. β Latham, Synopsis Birds, iii, pt. 1, 1785, 171).

Tringa solitaria WILSON, Am. Orn., vii, 1813, 53, pl. 58, fig. 3 (highest mountains from Kentucky to New York).^b

Totanus solitaria VIEILLLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 413 (Paraguay).—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 86.—AUDUBON, Synopsis, 1839, 242; Birds Am., 8vo ed., v, 1842, 309, pl. 343.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 238.—GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 101.—JARDINE, Contr. Orn., 1849, 84 (Bermudas, Sept.).—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, Aug.–Nov.).—PRATTEN, Trans. Ills. Agric. Soc., i, 1855, 607 (Illinois).—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 73.—HOY, An. Rep. Smithsonian. Inst. for 1864 (1865), 438 (Missouri).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1867, 979 (Pebas, e. Peru); 1868, 169 (Venezuela); 1873, 309 (Nauta, Chamicuros, and Pebas, e. Peru).—(?)FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—SUNDEVALL, Oefv. K. Vet.-Ak. Förh. Stockholm, 1869, 587 (St. Bartholomew), 602 (Porto Rico).—PELZELN, Orn. Bras., 1870, 309.—HARTING, Handb. Brit. Birds, 1872, 137 (Scotland).—LAYARD, Ibis, 1873, 396 (Para, Brazil).—COUES,

^a Nine specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Eleven adult males of <i>T. s. solitaria</i>	126.5	53.7	28.8	29.9	24.7
Sixteen adult males of <i>T. s. cinnamomea</i>	132.2	56.2	30.2	30.1	24.8
FEMALES.					
Nine adult females of <i>T. s. solitaria</i>	127.8	55.4	29.3	29.4	25.1
Four adult females of <i>T. s. cinnamomea</i>	138.7	57.6	30.3	31.7	24.7

^b Type locality probably Pocono Mountains, Pennsylvania, where Wilson says they regularly breed.

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- Rhyacophilus solitarius* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 733, part.—BAIRD, Cat. N. Am. Birds, 1859, no. 541, part.—NEWTON (A. and

^a Lapsus for *ochropus*!

- E.), Ibis, 1859, 259 (St. Croix).—SCLATER, Proc. Zool. Lond., 1861, 80 (Jamaica).—BARNARD, An. Rep. Smithson. Inst. for 1860 (1861), 438 (Chester Co., Pennsylvania).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine, breeding).—VERRILL, Proc. Essex Inst., iii, 1862, 152 (Oxford Co., Maine).—ALBRECHT, Journ. für Orn., 1862, 205 (Jamaica).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—ALLEN, Proc. Essex Inst., iv, 1864, 77 (Springfield, Massachusetts); Am. Nat., iii, 1869, 638 (Ipswich, Mass., June); vi, 1872, 351 (near Colorado City, Colo.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 199 (Rio Ucayali, e. Peru); 1867, 592 (Mexiana Island, Brazil); 1870, 838 (coast Honduras).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City); Proc. U. S. Nat. Mus., i, 1878, 238 (Antigua), 242 (Barbuda), 461 (Guadeloupe).—GUNDLACH, Repert. Fisico-Nat. Cuba., i, 1866, 355; Journ. für Orn., 1871, 294 (Cuba); 1874, 313 (Porto Rico); 1875, 324 (Cuba); 1878, 161, 188 (Porto Rico); Anal. Soc. Esp. Hist. Nat., vii, 1878, 372 (Porto Rico).—COUES, Proc. Bost. Soc. N. H., xii, 1868, 123 (South Carolina); Proc. Essex Inst., v, 1868, 295 (New England); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 32 (Fort Macon, North Carolina); Check List, 2nd ed., 1882, no. 637, part.—TURNBULL, Birds E. Penn. and N. J., 1869, 41 (Phila. ed., 32).—ABBOTT, Am. Nat., iv, 1870, 548 (New Jersey, June-Aug.).—FULLER, Am. Nat., v, 1871, 727 (Needham, Mass., July 24).—MAYNARD, Proc. Bost. Soc. N. H., xiv, 1871 (1872), 383 (New Hampshire).—TRIFFE, Proc. Bost. Soc. N. H., xiv, 1871 (1872), 241 (Iowa, breeding).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 182, part (Kansas); Bull. Nutt. Orn. Club, v, 1880, 169 (Santa Lucia).—RIDGWAY, Am. Nat., viii, 1874, 108 (crit.); Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 550); Nom. N. Am. Birds, 1881, no. 550.—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 446 (New England, migrant); Bull. Nutt. Orn. Club, iii, 1878, 197 (descr. egg alleged to be of this species from Castleton, Vermont) ^a.—DURNFORD, Ibis, 1878, 68 (Buenos Aires, Oct. to March).—SALVIN and GODMAN, Ibis, 1880, 178 (Sierra Nevada de Santa Marta, Colombia, Dec.).—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 239 (Point de Monts, Quebec, breeding).—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Labrador).—BARROWS, Auk, i, 1884, 315 (Concepcion, Uruguay, Aug. 20 to Oct.; Jan.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 278, part.—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 239 (Bermudas, frequent).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 247 (Fort Chimo, Ungava; breeding?).—SCLATER and HUDSON, Argentine Orn., ii, 1889, 188.—FEILDEN, Ibis, 1889, 496 (Barbados).—HOLLAND, Ibis, 1891, 20 (near El Rancho, Argentina; habits); 1892, 212 (Estancia Espartilla, Argentina; habits).—KERR, Ibis, 1892, 151 (lower Rio Pilcomayo, Argentina, Sept.).—AFLIN, Ibis, 1894, 209 (Santa Elena, Uruguay).—KOENIGSWALD, Journ. für Orn., 1896, 395 (São Paulo, s. e. Brazil).—HOLMBERG, Segundo censo Argentina, 1898, 569.—GRANT (C. H. B.), Ibis, 1911, 469 (Monte Alto, Paraguay, Aug.; Porto Esperanza and Riacho Paraguay, Brazil, Oct.).
- (?) *Rhyacophilus solitarius* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 372 (Lion Hill, Panama); 1869, 598 (Tinta, s. Peru); 1870, 219 (Castillo and Volcan de Chiriqui, Panama); 1879, 547 (Medellin, Antioquia, Colombia).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 141 (San Jose, Costa Rica).
- [*Rhyacophilus solitarius* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146, part.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 27.

^a The egg described certainly is not that of *Tringa solitaria*, but probably is that of *Charadrius melodus*.

- R [hyacophilus] solitarius* PARKER, Amer. Nat., v. 1871, 169 (Iowa).—COUES, Key N. Am. Birds, 2nd ed., 1884, 639.
- [?] *Rhynchophilus solitarius* LAWRENCE, Ann. Lyc. N. Y., vii, 1862, 334 (Lion Hill, Panama).
- Helodromas solitarius* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 444, 760, part.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 105.—IHERING, Revista Mus. Paulista, iii, 1899, 434 (São Paulo, s. Brazil).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 129 (Ciudad Bolívar, Altagracia, and Caicara, Venezuela, Aug., Oct., Dec.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 375, part.—BAER, Ornith., xii, 1904, 231 (Santa Ana, Argentina).—BRUCH, Rev. Mus. La Plata, xi, 1904, 250 (Oran, Salta, Argentina).—HELLMAYR, Abh. K. B. Akad. Wiss. ii Kl., xxii Bd., iii Abt., 1905, 714 (crit.).—ROBERTS, in Wilcox's Hist. Becker Co., Minn., 1907, 168 (breeding?).—BERLEPSCH, Novit. Zool., xv, 1908, 307 (Cayenne).—SNETHLAGE, Journ. für Orn., 1908, 517 (Goyana, Tapajos, Brazil).—CHUBB, Ibis, 1910, 67 (Sapucay, Paraguay, Aug. 26).—DABBENE, Orn. Argentina, 1910, 219 (Cordoba; Tucuman; Buenos Aires).—BERTONI, Fauna Parag., 1914, 38 (upper Rio Parana).
- (?) *Helodromas solitarius* BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1902, 52 (La Merced, Peru); Ornith., xiii, 1906, 102 (Santa Ana, s. Peru, Sept.), 125 (Huaynapata, Peru).
- [*Helodromas*] *solitarius* SHARPE, Hand-list, i, 1899, 161, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 70.
- Helodromas solitarius* BANGS and ZAPPEY, Am. Nat., xxxix, April, 1905, 196 (Isle of Pines, Cuba, May).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Barracas al Sud, Argentina, March, Oct.).—(?) CARRIKER, Ann. Carnegie Mus., vi, 1910, 419 (Tenorio, San Jose, Bolson, and El Hogar, Costa Rica, Jan., Sept., Dec.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 121.—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 42 (Porto Rico, common in winter).—HARLOW, Auk, xxxv, 1918, 22 (breeding in La Anna, Pike Co., Pennsylvania).
- Totanus chloropygius* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 401 (Hudson Bay to Santo Domingo).—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 86 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [168]; Ann. Lyc. N. Y., ii, 1827, 325; Geog. and Comp. List, 1838, 51.—LESSON, Traité d'Orn., 1831, 552.—JARDINE, ed. Wilson's Am. Orn., iii, 1832, pl. 58, fig. 3.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 159.—AUDUBON, Orn. Biog., iii, 1835, 576, pl. 289; v, 1839, 583.—PEABODY, Rep. Orn. Mass., 1839, 370.—GOSSE, Birds Jamaica, 1847, 350.—DENNY, Proc. Zool. Soc. Lond., 1847, 39.—REICHENBACH, Gallatores, 1850, pl. 74, fig. 584.—THOMPSON, Nat. Hist. Vermont, 1853, 105.—CABANIS, Journ. für Orn., 1856, 352 (Cuba).—KNEELAND, Proc. Bost. Soc. N. H., vi, 1857, 238 (Keweenaw Point, Mich.).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 86 (Cuba; crit.).—LÉOTAUD, Ois. Trinidad, 1866, 450.—GRAY (R.), Ibis, 1870, 292 (Lanarkshire, Scotland, 1 spec.); Birds West Scotland, 1871, 295.—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 560 (Chorillos, e. Peru).
- [*Totanus*] *chloropygius* D'HAMONVILLE, Cat. Ois. Eur., 1876, 52 (Scotland).
- [*Rhynchophilus*] *chloropygius* BONAPARTE, Compt. Rend., xliii, 1856, 597.
- Totanus punctatus* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 411 (Paraguay; based on *Chorlito pardo minor* Azara, Apunt. Parag., iii, 1805, 315).—HARTLAUB, Index Azara's Apunt., 1847, 25.
- [*Totanus*] *punctatus* GRAY, Gen. Birds, iii, 1846, 573.

[*Totanus*] *caligatus* LICHTENSTEIN, Verz. Doubl., 1823, 74, in text (Paraguay; no descr.; based on *Petit Chorlito brun* Azara, Apunt. Parag., iii, 1805, 315).

Totanus caligatus BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 370.

Tringa glareola (not of Linnæus) ORD, ed. Wilson's Am. Orn., vii, 1825, 57.

Tringa macroptera SPIX, Av. Bras., ii, 1825, 76, pl. 92 (seacoasts, Rio de Janeiro and Bahia, Brazil; see Hellmayr, Abh. K. B. Akad. Wiss., ii Kl., xxii Bd., iii Abth., 1905, 714).—SCLATER, Proc. Zool. Soc. Lond., 1855, 163 (Bogota, Colombia).

Totanus macropterus GOULD, Zool. Voy. 'Beagle,' iii (Birds), 1841, 129 (Montevideo, Uruguay).

TRINGA SOLITARIA CINNAMOMEA (Brewster).

WESTERN SOLITARY SANDPIPER.

Similar to *T. s. solitaria*, but larger; summer adults with upper parts much less distinctly spotted with whitish, white bars on tail averaging decidedly narrower (and blackish ones correspondingly broader), and middle pair of rectrices often (usually?) wholly deep brownish gray; young with spotting on upper parts decided brownish buffy or cinnamomeous, instead of whitish.

Downy young.—General color of upper parts cinnamon-drab, longitudinally varied with brownish black; forehead and crown with a broad median streak of black; a sharply defined black loreal streak, extending from bill to eye; a narrow black stripe across auricular region (longitudinally), or a black post-auricular spot; occiput brown centrally, black exteriorly, the black border sending from each side a forward branch; an oval patch of brownish black on median portion of rump, this bordered along each side by a stripe of pale dull vinaceous-buff, the two buffy stripes converging or almost uniting both anteriorly and posteriorly; wings cinnamon-drab, margined posteriorly with dull white, the brown portion with several irregular spots or blotches of black; under parts dull white.

Adult male.—Wing, 124–137 (132.2); tail, 52.5–59 (56.2); exposed culmen, 27.5–32 (30.2); tarsus, 29–32 (30.1); middle toe, 23.5–27 (24.8).^a

Adult female.—Wing, 137–142 (138.7); tail, 56–59 (57.6); exposed culmen, 29–32 (30.3); tarsus, 30–33 (31.7); middle toe, 24–25 (24.7).^b

Breeding from northwestern Alaska (Kotzebue Sound), Mackenzie (Great Bear Lake, etc.), and northern Alberta, southward to British Columbia (Ducks), Utah (Parleys Park, Wahsatch Mountains), Colorado (up to 10,000 feet), and New Mexico (San Miguel County, up to 8,000 feet); migrating southward over Mexico (including Lower California) and, probably, Pacific slope of Central and South America

^a Sixteen specimens.

^b Four specimens.

and Galápagos Archipelago (Chatham Island, Oct.) to Peru (Tumbez; Chorillos; La Mercéd; Santa Ana; Huaynapata).^a

Totanus chloropygius (not of Vieillot) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 393, part (Great Bear Lake).

(?) *Totanus chloropygius* WAGLER, Isis, 1831, 521 (Mexico).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 560 (Chorillos, Peru).

(?) [*Totanus*] *chloropygius* TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 312 (Peru).

[*Totanus*] *chloropygius* GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 223.

[*Totanus*] *chloropygius* GRAY, Hand-list, iii, 1871, 44, no. 10269, part.

Totanus solitarius (not *Tringa solitaria* Wilson) HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).—COUES, Check List, 1873, no. 435, part; Birds Northwest, 1874, 498, part; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 643 (Dakota and Montana).—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 342, 345 (Utah), 351 (Nevada).—RIDGWAY, Field and Forest, ii, 1877, 211 (Colorado).—HENSEHAW, Zool. Expl. W. 100th Merid., 1875, 459 (Camp Apache, etc., Arizona, July 29 to Aug. 28; Pueblo, Colorado, July 27).—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 197 (Fort Klamath, Oregon).—SCOTT, Auk, iii, 1886, 386 (near Tucson, Arizona, migrant).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 256, part.—TURNER, Contr. N. H. Alaska, 1886, 189.—COOPER, Auk, iv, 1887, 91 (Ventura Co., California, winter).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 198, 235 (Mt. Shasta, California).—LLOYD, Auk, iv, 1887, 186 (Concho Co., w. Texas, Sept., Oct., a few in spring).—BECKHAM, Proc. U. S. Nat. Mus., x, 1887, 637, 653 (Bexar Co., Texas).—NELSON, Rep. N. H. Coll. Alaska, 1887, 118 (Anvik and Nulato, lower Yukon Valley).—SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxiii, 367, part.—MERRILL (J. C.), Auk, v, 1888, 144 (Fort Klamath, Oregon, May, Aug.).—MERRIAM, N. Am. Fauna, no. 3, 1890, 88 (Walker Lake, Arizona, Sept. 1); no. 5, 1891, 92 (Lemhi River and Birch Creek, Idaho).—ATTWATER, Auk, ix, 1892, 232 (San Antonio, Texas, migrant).—COOKE, Birds Col., 1897, 67 (breeding from plains up to 10,000 ft.).—MITCHELL, Auk, xv, 1898, 307 (San Miguel Co., New Mexico, breeding up to 8,000 ft.).

[*Totanus*] *solitarius* COUES, Key N. Am. Birds, 1872, 259, part.

[*Totanus*] *solitarius* RIDGWAY, Man. N. Am. Birds, 1887, 196, part.

(?) *Totanus solitarius* LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 3 (Mexico); Journ. für Orn., 1863, 59 (reprint).—SCLATER, Proc. Zool. Soc., 1856, 310 (Cordova, Vera Cruz); 1858, 461 (Ecuador).—FRANTZIUS, Journ. für Orn., 1869, 377 (Costa Rica).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 368 (Chorillos and Tumbez, Peru).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos, Peru).

Rhyacophilus solitarius CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 733 part (Fort Tejon, California; Steilacoom, Washington).—HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).—BAIRD, Cat. N. Am. Birds, 1859, no. 541, part.—BLAKISTON, Ibis, 1862, 9 (Forks Saskatchewan, May); 1863, 133 (Mackenzie River).—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 98 (Fort Whipple, Arizona).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 292 (Nulato, Alaska, May).—COOPER, Am. Nat., viii, 1874, 18 (Cuyamaca Mts., Cal.).—STEVENSON, Rep. U. S. Geol. Surv. Terr., 1871, 466

^a The winter range of this form is uncertain, owing to absence of specimens from most of the localities south of the United States from which the species has been recorded. The above statement of the winter range is, therefore, based more or less on theoretical considerations, and some of the references, both under this form and *T. solitaria olitaria*, may be wrongly allocated.

- (Camp Reynolds and Ft. Fetterman, Wyoming).—ALLEN, *Am. Nat.* vi, 1872, 351 (near Colorado City, Colo.); *Bull. Mus. Comp. Zool.*, iii, 1872, 182, part (Colorado; Wyoming, Aug.).—HENSCHAW, *Ann. Lyc. N. Y.*, xi, 1874, 11, (Ogden, Utah).—LAWRENCE, *Mem. Bost. Soc. N. H.*, ii, 1874, 309 (Mazatlan, Sinaloa).—RIDGWAY, *Orn.* 40th Parallel, 1877, 610 (Truckee Valley, Nevada, May 13; Glendale, Nevada, July); *Proc. U. S. Nat. Mus.*, iii, 1880, 200 (*Cat. N. Am. Birds*, no. 550), part; *Nom. N. Am. Birds*, 1881, no. 550, part.—MCLENNAN, *Cruise 'Corwin'*, 1884, 121 (Hotham Inlet or Kowak River, n w. Alaska).—DREW, *Auk*, ii, 1885, 18 (Colorado).—PROCTOR, *Bull. Nutt. Orn. Club*, xix, 1907, 35 (n. Alberta, breeding; descr. nesting sites).
- (?) *Rhyacophilus solitarius* SCLATER and SALVIN, *Ibis*, 1859, 229 (Guatemala), *Proc. Zool. Soc. Lond.*, 1869, 598 (Cosnipata, Peru).—SCLATER, *Proc. Zool. Soc. Lond.*, 1860, 254 (Orizaba, Vera Cruz); 1864, 178 (City of Mexico).—DRESSER, *Ibis*, 1866, 38 (s. Texas).—LAWRENCE, *Ann. Lyc. N. Y.*, ix, 1869, 141 (San Jose, Costa Rica); *Bull. U. S. Nat. Mus.*, no. 4, 1876, 47 (Tapana, Oaxaca, Oct., April).
- [*Rhyacophilus*] *solitarius* SCLATER and SALVIN, *Nom. Av. Neotr.*, 1873, 146.
- Rhyacophilus ochropus*, var. *solitarius* RIDGWAY, *Bull. Essex Inst.*, v, Nov. 1873, 187 (Colorado).
- Rhyacophilus glareola solitarius* RIDGWAY, *Bull. Essex Inst.*, vii, Jan., 1875, 15, 18 (Truckee Valley, Nevada, "breeding"), 34 (Parleys Park, Utah, breeding).
- Rhyacophilus glareola* . . . var. *solitarius* RIDGWAY, *Bull. Essex Inst.*, vii, 1875, 39 (Nevada).
- Helodromas solitarius* SHARPE, *Cat. Birds Brit. Mus.*, xxiv, 1896, 444, 760, part.—SALVIN and GODMAN, *Biol. Centr.-Am.*, Aves, iii, 1903, 375.
- (?) *Helodromas solitarius* ROTHSCHILD and HARTERT, *Novit. Zool.*, vi, 1899, 188 (Chatham Island, Galapagos, 2 specs., Oct. 12); ix, 1902, 418 (Galapagos in migration).—BERLEPSCH and STOLZMANN, *Proc. Zool. Soc. Lond.*, 1902, 52 (La Merced, Peru); *Ornis*, xiii, 1906, 102 (Santa Ana, Peru, Sept.), 125 (Huaynapata, Peru).
- (?) *Helodromas solitarius solitarius* BROOKS (W. S.), *Bull. Mus. Comp. Zool.*, lix, 1915, 379 (Griffin Point, Alaska, June 1).
- Totanus solitarius cinnamomeus* BREWSTER, *Auk*, vii, Oct., 1890, 377 (San Jose del Cabo, Lower California; coll. W. Brewster).—CHAPMAN, *Bull. Am. Mus. N. H.*, iii, 1890, 132 (Ducks, Brit. Columbia, breeding; habits).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, *Auk*, viii, 1891, 84 (Third Suppl. to Check List, no. 256a); Check List, 2nd ed., 1895, no. 256a.—ALLEN, *Bull. Am. Mus. N. H.*, v, 1893, 23 (Cachita, Sonora, Oct.).—ELLIOT, *N. Am. Shore Birds*, 1895, 126.—RIDGWAY, *Man. N. Am. Birds*, 2nd ed., 1896, 587.
- Helodromas solitarius cinnamomeus* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, *Auk*, xvi, Jan., 1899, 105; Check List, 3rd ed., 1910, 121.—BREWSTER, *Bull. Mus. Comp. Zool.*, xli, 1902, 67 (San Jose del Cabo, Lower California, Aug. 25 to Sept. 2).—BAILEY (Florence M.), *Auk*, xxi, 1904, 445 (San Miguel Co., New Mexico, Aug.).—ROCKWELL, *Condor*, x, 1908, 160 (Grand River Junction, w. Colorado, June 22).—SWARTH, *Univ. Calif. Pub. Zool.*, vii, 1911, 53 (Port Snettisham and Taku River, s. Alaska, Sept.).—RILEY, *Canad. Alpine Journ.*, 1912, 54 (Moose Pass, Brit. Columbia, July 29).
- Helodromas cinnamomeus* SHARPE, *Cat. Birds Brit. Mus.*, xxiv, 1896, 760.
- [*Helodromas*] *cinnamomeus* SHARPE, *Hand-list*, i, 1899, 161.—FORBES and ROBINSON, *Liverp. Mus.*, ii, no. 2, 1899, 70.

Genus HETEROSCELUS Baird.

- Heteroscelus* (not *Heteroscelis* Latreille, 1825) BAIRD, *Rep. Pacific R. R. Surv.*, ix, 1858, 734. (Type, by original designation, "*Totanus brevipes* Vieillot," i. e., *Scolopax incana* Gmelin.)

Heteractitis^a STEJNEGER, Auk, i, July, 1884, 236. (New name to replace *Heteroscelus* Baird, thought to be preoccupied.)

Medium-sized Tringine (wing 160–180 mm.) with stout bill, tarsus shorter than exposed culmen (though longer than middle toe with claw), planta tarsi with scutella small (sometimes broken or irregular), and color of upper parts wholly plain brownish gray.

Bill straight and rather stout, its depth at base equal to nearly one-sixth the length of exposed culmen, the latter longer than tarsus; nasal groove broad, extending half way to tip of maxilla (in *H. brevipes*) or two-thirds the distance (in *H. incanus*); gonys about as long as mandibular rami (*H. brevipes*) or decidedly shorter (*H. incanus*), faintly convex; culmen slightly but decidedly decurved terminally. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by about one-half the length of wing. Tail nearly half as long as wing (somewhat shorter in *H. brevipes*), very slightly rounded. Tarsus slightly shorter than exposed culmen but longer than middle toe with claw, the acrotarsium with transverse, slightly oblique, scutella, these becoming smaller and finally broken into small scales on upper portion; planta tarsi with the scutella much smaller, sometimes broken up into small scales; bare portion of tibia short (much less than half as long as middle toe), covered with small scales, those on posterior side sometimes in form of small transverse scutella; lateral toes decidedly shorter than middle toe, the outer toe slightly longer than the inner one; basal phalanges of outer and middle toes connected by a deeply incised web, but web between inner and middle toes much smaller, practically absent.

Coloration.—Above plain brownish gray, the remiges, primary coverts, etc., darker; beneath white, more or less barred with brownish gray or dusky in summer, clouded or suffused with grayish anteriorly and laterally in winter.

Range.—Coasts and islands of Pacific Ocean. (Two species).

KEY TO THE SPECIES OF HETEROSCELUS.

- a. Nasal groove (measured from latero-frontal antia) much more than half (about two-thirds) as long as exposed culmen; upper tail-coverts uniform gray, or merely edged (narrowly) with white; summer adults with abdomen and under tail-coverts barred with dusky. (Alaska and Yukon Territory to northeastern Siberia, migrating to Lower California, Galapagos Islands, Hawaiian Islands etc.).....*Heteroscelus incanus* (p. 367)
- aa. Nasal groove (measured from latero-frontal antia) only about half as long as exposed culmen; upper tail-coverts distinctly barred with white; summer adults with abdomen and under-tail coverts immaculate white. (Shores and islands of

^a From *ἕτερος*=different and *ἄκτις*=an inhabitant of the shore. (Stejneger.)

the western Pacific and eastern Indian Oceans, from Kamchatka to Australia, Borneo, etc.).....*Heteroscelus brevipes* (extralimital).^a

HETEROSCELUS INCANUS (Gmelin).

WANDERING TATTLER.

Adults in summer (sexes alike).—Upper parts plain, deep slate-gray (or between slate-gray and deep neutral gray), the upper tail-coverts sometimes narrowly margined with whitish; primaries and primary coverts dull blackish or dusky, the former with shafts brown on outer, white on inner, surface, the outermost, however, with shaft white on outer side also; a rather well-defined superciliary stripe of grayish white, and a dusky loreal stripe, from base of maxilla to anterior angle of eye; suborbital region grayish white, narrowly and indistinctly streaked with dusky grayish, the auricular region similar but more decidedly grayish, especially the upper portion; under parts white, the foreneck streaked, the remainder of under surface (except chin and throat) barred with dusky slate color; axillars and under wing-coverts white, barred and spotted with dusky slate color; bill dusky, more brownish basally (greenish horn color with base dull yellow in life); iris dark brown; legs and feet light brownish (yellow in life).

Winter plumage.—Upper parts slightly lighter slate-gray than in summer; under parts without streaks or bars, the white shaded with slate-grayish on foreneck, chest, and sides.

Young.—Similar to the winter plumage, but tertials, scapulars, and upper tail-coverts indistinctly spotted with white along edges, and slate-gray of sides, etc., faintly mottled with white.

Adult male.—Wing, 161–174 (169.5); tail, 71–77.5 (74.4); exposed culmen, 34–40.5 (37.9); tarsus, 32–34 (32.9); middle toe, 26–28 (27).^b

^a *Totanus brevipes* Vieillot, Nouv. Dict. d'Hist. Nat., vi, 1816, 410 (no locality); Cassin, Orn. U. S. Expl. Exped., 1858, 339.—[*Gambetta*] *brevipes* Bonaparte, Compt. Rend., xliiii, 1856, 597. *Heteroscelus brevipes*, part, Baird, Rep. Pacific R. R. Surv., ix, 1858, 734.—*Heteractitis brevipes* Stejneger, Bull. 29, U. S. Nat. Mus., 1885, 137 (Commander Islands; synonymy; crit.); Proc. U. S. Nat. Mus., xxi, 1898, 281 (Kuril Islands); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 449.—*Totanus incanus brevipes* Seebohm, Geog. Distr. Charadriidae, 1887, pp. xxiii, 361.—*Heteractitis incanus brevipes* Nikolski, Faun. Sakhal., 1889, 265; Hartert, Ibis, 1904, 427 (upper Lena River, Siberia).—*Heteroscelus incanus brevipes* Mathews, Birds Austral., iii, pt. 3, Aug. 18, 1913, 207.—*Tringa brevipes* Mathews, Birds Austral., iii, pt. 3, Aug. 18, 1913, pl. 207.—*Totanus incanus* (not *Scolopax incana* Gmelin) and *Heteroscelus incanus* of numerous authors.—*Tringa glareola* (not *Tringa glareola* Linnaeus) Pallas, Zoogr. Rosso-Asiat., ii, 1826, 194, pl. 60.—*Totanus pedestris*, part, Lesson, Traité d'Orn., 1831, 552.—*Totanus pulverulentus* Müller, Naturk. Verh., 1844, 152 (Timor); Temminck and Schlegel, Fauna Japonica, Aves, 1849, 109, pl. 65.—[*Gambetta*] *pulverulenta* Bonaparte, Compt. Rend., xliiii, 1856, 597; Gould, Handb. Birds Austral., ii, 1865, 268.—*Actitis pulverulenta* Dybowski and Parvex, Journ. für Orn., 1868, 337.—*Totanus griseiceps* Gould, Proc. Zool. Soc. Lond., 1848, 39 (Port Essington, Australia).

^b Ten specimens.

Adult female.—Wing, 169–180 (174.6); tail, 73–80 (77.2); exposed culmen, 38–42 (39.8); tarsus, 31.5–33.5 (32.6); middle toe, 26.5–28.5 (27.6).^a

Breeding from south-central Alaska (vicinity of Mount McKinley) eastward to east-central Yukon (Macmillan River), southward to shores and islands of Prince William Sound; migrating along Pacific coast of North America, from Norton Sound southward, to Aleutian and Pribilof Islands, coast of northeastern Siberia (Plover Bay, etc.), Kamchatka (Petropaulski; Bering Island), Korea (Seoul), and islands throughout Pacific Ocean, as far as the Marquesas, Low (or Paumotu), Society, Samoan, Fiji, New Hebrides, Caroline, and Mariana groups, New Caledonia, and Torres Straits (First Cousin Island; Cape York); in America wintering from Lower California to Galápagos Archipelago (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Champion, Culpepper, Duncan, Gardner-near-Hood, Hood, Indefatigable, James, Jervis, Narborough, Seymour, Tower, and Wenman Islands).

[*Scolopax*] *incana* GMELIN, Syst. Nat., i, pt. ii, 1789, 658 (Eimo [or Moorea] Island, Society Group, and Palmerston Island, Pacific Ocean; based on *Ash-coloured Snipe* Latham, Synopsis Birds, iii, pt. 2, 1785, 154).—LATHAM, Index Orn., ii, 1790, 724.—TURNER, Syst. Nat., i, 1806, 395.

Totanus incanus VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 400.—SCLATER, Proc. Zool. Soc. Lond., 1864, 9 (Huahine, Society Islands); 1877, 113 (Duke of York Island), 587 (Admiralty Islands); 1878, 351 (Hawaiian Islands); Voy. 'Challenger,' ii, pt. viii, 1888, 99 (Hilo Bay, Owyhee).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 74, part.—MARIE, Actes Soc. Linn. Bordeaux, xxvii, 1870, 328 (New Caledonia).—RAMSAY, Proc. Linn. Soc. N. S. W., i, 1877, 76 (Fiji Islands).—FINSCH, Proc. Zool. Soc. Lond., 1877, 775 (Ena, Friendly Islands).—LAYARD (E. L. and L. C.), Ibis, 1877, 363 (New Caledonia); 1878, 262 (islets off coast New Caledonia; crit.).—TRISTRAM, Ibis, 1881, 251 (Marquesas Islands; crit.); Proc. Zool. Soc. Lond., 1886, 79 (Sidney Island, Phoenix Group).—SEEBORHM, Geog. Distr. Charadriide, 1887, 360; Ibis, 1890, 101 (Peel Island, Bonin Group).—KAISER, Journ. für Orn., 1902, 256 (Nauru Island).

Totanus (Gambetta) incanus GRAY, Cat. Birds Trop. Is., 1859, 50 (Society, Low, Marquesas, Hawaiian, Tonga, Fiji, Samoan, and Palmerston Islands).

Totanus (Heteractitis) incanus PALMÉN, 'Vega'-Exped., 1887, 305 (Tschukthalfön, e. Siberia, June).

Actitis incanus FINSCH and HARTLAUB, Orn. Centr.-Polyn., 1867, 182.—DOLE, Proc. Bost. Soc. N. H., xii, 1869, 303 (Hawaiian Islands).—HARTLAUB and FINSCH, Proc. Zool. Soc. Lond., 1871, 273 (Savai; Raratonga); 1872, 106 (Up. Pelew Islands).—FINSCH, Journ. für Orn., 1872, 53 (Samoa); 1880, 294 (Ponape, Caroline Group), 306 (Kuschai, Carolines); Abh. Nat. Ver. Bremen, iii, 1872, 64 (Sitka, Unalaska, etc., Alaska).

Actitis incana FINSCH, Proc. Zool. Soc. Lond., 1877, 781 (Ponape, Carolines), 785 (Niuafo, Friendly Islands); 1879, 15 (Duke of York Island); 1880, 576 (Ruk, centr. Carolines); Ibis, 1880, 79 (Honolulu), 216 (Taluit), 330 (Marshall Islands); 1881, 105, 109 (Kuschai, Carolines), 115 (Ponape, Carolines), 246 (Pleasant Island).—LAYARD, Ibis, 1880, 232 (Loyalty Islands), 305 (New

^a Ten specimens.

- Hebrides).—LAYARD (E. L. and L. C.), Ibis, 1881, 136 (Aneiteum); 1882, 534 (New Caledonia), 544 (New Hebrides; Fiji Islands).
- [*Heteroscelus*] *incanus* COUES, Key N. Am. Birds, 1872, 261.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327, part (Kamchatka).
- Heteroscelus incanus* COUES, Check List, 1873, no. 440; 2nd. ed., 1882, no. 642; in Elliott's Affairs in Alaska, 1875, 187 (Pribilof Islands, migrant).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 503 (Indefatigable and Abingdon Islands, Galapagos); Proc. Zool. Soc. Lond., 1883, 429 (Acapulco, Guerrero).—STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 19 (Palmyra Island, Fanning Group).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 200 (Cat. N. Am. Birds, no. 553); Nom. N. Am. Birds, 1881, no. 553.—ELLIOTT, Mon. Pribylov Group, 1882, 130 (summer visitant, not breeding).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 165 (Plover Bay, e. Siberia; Unalaska).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 532 (Cerro Island, Lower California, April).—NELSON, Cruise 'Corwin' in 1881 (1883), 89 (lower Yukon River up to Nulato and Anvik; islands in Bering Sea; Bering Sea coast of Siberia).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 290.—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1889, 116 (Hood and James Islands, Galapagos).
- [*Heteroscelus*] *incanus* COUES, Key N. Am. Birds, 2nd ed., 1884, 643.
- Heteroscelus incanus incanus* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, 211.
- Heteroscelus incanus* TACZANOWSKI, Proc. Zool. Soc. Lond., 1888, 457 (Seoul, Korea, Sept.).
- Heteractitis incanus* STEJNEGER, Auk, i, July, 1884, 236; Bull. U. S. Nat. Mus., no. 29, 1885, 132-137 (Bering Island, Kamchatka; crit., range, measurements, synonymy, etc.); Proc. U. S. Nat. Mus., x, 1887, 83 (Kauai, Hawaiian Group); xii, 1890, 381 (Kauai).—TURNER, Auk, ii, 1885, 157 (Nearer Islands, Aleutian chain, rare summer visitant); Contr. N. H. Alaska, 1886, 148 (St. Michaels; Unalaska; Atka; Attu).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 259; 3rd ed., 1910, p. 122.—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 100 (Otter Island, Bering Sea, June 8); Proc. U. S. Nat. Mus., xiii, 1890, 134 (Clarion Island, Revillagigedo Group, w. Mexico, March 4).—NELSON, Rep. N. H. Coll. Alaska, 1887, 118 (Nulato, May 27; Unalaska; Sanak Island; shores Norton Sound, etc., habits).—COOPER, Auk, iv, 1887, 87 (Santa Barbara, California).—BLAKE, Auk, iv, 1887, 329 (Santa Cruz Island, California).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2nd ser., ii, 1889, 273 (Cerro Island, Lower California, winter).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 116 (Hood and James Islands, Galapagos); xix, 1896, 632 (Abingdon, Albemarle, Hood, Indefatigable, and James Islands, Galapagos).—FISHER (A. K.), N. Am. Fauna, no. 7, 1893, 23 (Monterey, California, Oct. 3).—ELLIOT, N. Am. Shore Birds, 1895, 135, pl. 42.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 453, 761.—GRINNELL (J.), Pub. 1, Pasadena Ac. Sci., 1897, 26 (San Clemente I., California, March 29); Pub. 2, 1898, 18 (Santa Catalina I., March).—ANTHONY, Auk, xv, 1898, 315 (San Benedicto I., Revillagigedo Group, April), 316 (Socorro I., Revillagigedo Group, May).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 188 (Culpepper, Chatham, Charles, Abingdon, Albemarle, Indefatigable, James, and Hood Islands, Galapagos); ix, 1902, 418 (Galapagos in migration).—BARRETT-HAMILTON, Ibis, 1900, 293 (Petropaulski, Kamchatka; fresh colors unfeathered parts).—HENSCHAW, Birds Hawaiian Islands, 1902, 92 (permanent resident on all islands, but apparently not breeding; habits).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 234 (Homer, Cook Inlet, Alaska, Aug. 24).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., iv, 1902, 511 (Guadalupe I., Lower Cali-

- fornia; Revillagigedo Islands; Cocos I.; Galapagos).—FISHER (W. K.), Bull. U. S. Fish Com. for 1903, 34 (Laysan and Necker Islands, Hawaiian Group, migrant).—MCGREGOR, Condor, viii, 1906, 119 (Unalaska Island, Alaska, June 2).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 50 (Unalaska, Agattu, and Attu Islands, Aleutian chain).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 55 (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Champion, Charles, Chatham, Culpepper, Duncan, Gardner-near-Hood, Hood, Indefatigable, James, Jervis, Narborough, Seymour, Tower, and Wenman Islands, Galapagos; Cocos Island, Costa Rica).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 380 (Copper Island, May).
- H[eteractitis] incanus* RIDGWAY, Man. N. Am. Birds, 1887, 168.—ROTSCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos).—BRYAN, Key Birds Hawaiian Group, 1901, 27.
- [*Heteractitis*] *incanus* SHARPE, Hand-list, i, 1899, 161.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 70 (First Cousin Island, Torres Strait; Samoa; Phoenix Islands; Huaheine and Tahiti, Society Islands; Marquesas; etc.).
- Heteractitis incana* SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 377 (Acapulco, Guerrero).
- Tringa incanus* MATHEWS, Birds Australia, iii, pt. 3, Aug. 18, 1913, pl. 152, facing p. 211.
- Trynna glareola* var. PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 194, part.
- Scolopax solitarius* (not of Wilson) BLOXHAM, in Byron's Voy. 'Blossom,' 1826, 252 (Hawaiian Islands).
- Totanus solitarius* HARTLAUB, Archiv für Nat., 1852, Bd. i, 134 (Tonga Islands).
- Tringa brevipes* (not *Totanus brevipes* Vieillot) LESSON, Compl. Buffon, ix, 1837, 416 (Pacific Islands).—PUCHERAN, Rev. et Mag. de Zool., 1851, 370 (crit.).—KITTLITZ, Denkw., i, 1858, 258.
- Totanus brevipes* (not of Vieillot) CASSIN, Proc. Ac. Nat. Sci. Phila., viii, 1856, 40 (Pacific coast America; Pacific Islands); Rep. U. S. Expl. Exped. (Wilkes), 1858, 318 (Paumotu Group).—PELZELN, Reis. 'Novara', Vög., 1865, 129 (Puinipet; Tahiti).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1879, 323 (Abingdon and Indefatigable Islands, Galapagos).
- Heteroscelus brevipes* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 734 (excl. syn.); ed. 1860 (Birds N. Am.), pl. 88.—BAIRD, Cat. N. Am. Birds, 1859, no. 542.—BROWN, Ibis, 1868, 425 (Vancouver Island).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1870, 323 (Abingdon and Indefatigable Islands, Galapagos).—COOPER, Am. Nat., iv, 1871, 758 (Monterey, Cal.).
- [*Heteroscelus*] *brevipes* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146.
- Heterosceles brevipes* DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 293 (Sitka, Alaska; Yukon River, rare).
- Totanus pedestris* LESSON, Traité d'Orn., 1831, 552, part.
- Totanus fuliginosus* GOULD, in Darwin's Zool. Voy. 'Beagle,' iii (Birds), 1841, 130 (Galapagos Islands; type now in coll. Brit. Mus.).—GRAY, List Birds Brit. Mus., iii, Gallæ, 1844, 101; Gen. Birds, iii, 1846, pl. 154.—REICHENBACH, Gallatore, 1850, pl. 318, fig. 2369.—HARTLAUB, Journ. für Orn., 1854, 170 (Galapagos).
- [*Totanus*] *fuliginosus* GRAY, Gen. Birds, iii, 1846, 573.
- [*Gambetta*] *fuliginosa* BONAPARTE, Compt. Rend., xliii, 1856, 597.
- Scolopax undulata* (not of Boddaert, 1783) LICHTENSTEIN, Forster's Descr. Anim. It. Mar. Austr., 1844, 173 (Otaheite; Uliatea).
- Totanus undulatus* VERREAUX, Rev. et Mag. de Zool., 1860, 457.
- Scolopax pacifica* LICHTENSTEIN, Forster's Descr. Anim. It. Mar. Austr., 1844, 173 (Tongatabu).

Totanus oceanicus LESSON, Compl. Œuvr. Buffon (Lévéque ed.), xx, 1847, 244 (Oualan Island).—HARTLAUB, Archiv für Nat., 1852, Bd. i, 121, 135 (Marquesas; Caroline Islands); Journ. für Orn., 1854, 167 (Bonin and Marianne Islands), 168 (Caroline Islands).

[*Gambetta*] *oceanica* BONAPARTE, Compt. Rend., xliii, 1856, 597.

[*Heteroscelus*] *oceanicus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327 (St. Savoi, Samoan Islands).

Actitis pulverulentus (not *Totanus pulverulentus* Müller) LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92 (Hawaiian Islands).

Totanus polynesiae PEALE, Rep. U. S. Expl. Exped. (Wilkes), Birds, 1848, 237, (Fiji Islands; Paumotu Group).—HARTLAUB, Archiv für Nat., 1852, Bd. i, 120 (Fiji; Tonga; Samoa; Society Islands; Paumotu; Marquesas Islands; Mathew Island); Journ. für Orn., 1854, 169, 170 (Tonga; Samoa; Society Is.; Paumotu Group).

Totanus semipalmatus (not *Scolopax semipalmata* Gmelin) STREETS, Am. Nat., xi, 1877, 71, in text (Christmas Island).

Genus ACTITIS Illiger:

Actitis ILLIGER, Prodromus Orn., 1811, 262. (Type, as designated by Stejneger, 1885, and by elimination, *Tringa hypoleucos* Linnæus; see Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 131.)

Tringoides BONAPARTE, Ann. Lyc. N. H. N. Y., ii, "1828" (Nov., 1827), 326 (Type, as designated by Richmond, 1917, *Tringa macularia* Linnæus.)

Tryngodes (emendation) HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 327.

Guinetta GRAY, List Gen. Birds, 1840, 68. (Type, *Tringa hypoleucos* Linnæus.)

Small Tringine (wing about 89–110 mm.) with the strongly rounded or graduated tail very nearly to more than half as long as wing; nasal groove extending for two-thirds the distance to tip of maxilla; exposed culmen as long as tarsus, and wing with a broad white band extending obliquely across inner webs of remiges.

Bill straight, moderately stout, its depth at base equal to about one-sixth the length of exposed culmen, the latter as long as tarsus; nasal groove extending for about two-thirds the distance to tip of maxilla, broad basally but very narrow anterior to nostril; tip of both culmen and gonys slightly but distinctly convex, especially the former. Wing moderately long and pointed, the outermost primary exceeding the distal secondaries by about one-half the length of wing. Tail slightly less to slightly more than half as long as wing, strongly rounded or graduated; rectrices 12. Tarsus as long as or longer than middle toe with claw, much more than one-fourth as long as wing, scutellate anteriorly and posteriorly, but scutella of planta tarsi smaller, narrower, and much less distinct; bare portion of tibia about half as long as middle toe, scutellate posteriorly; lateral toes much shorter than middle toe, the inner slightly shorter than the outer; a small but distinct web between basal phalanges of outer and middle toes, but none between middle and inner toes.

Coloration.—Above brownish gray, barred, streaked, or irregularly marked with blackish; beneath mostly white, sometimes spotted with black or dusky; a broad, oblique band or white across inner webs of remiges.

Range.—Northern hemisphere. (Two species.)

KEY TO THE SPECIES OF ACTITIS.

- a. Summer adults with under parts everywhere spotted with blackish. (North America; Middle and South America in winter.).....*Actitis macularia* (p. 372).
- aa. Summer adults with under parts immaculate white, except chest, which is pale grayish brown streaked with darker. (Northern Europe and Asia, migrating to South Africa, India, Australia, etc.).....*Actitis hypoleucos* (extralimital).^a

ACTITIS MACULARIA (Linnaeus).

SPOTTED SANDPIPER.

Adults in summer.—Upper parts greenish or bronzy grayish brown, with a faint metallic gloss, the pileum streaked with dusky, the back, scapulars, wing-coverts, rump, and upper tail-coverts irregularly marked with blackish, the markings mostly in form of transverse spots but intermixed, more or less, with others of more or less sagittate or lanceolate form; secondaries broadly tipped with white and with more than their basal half abruptly white; primaries plain dusky; tail bronzy grayish brown, the lateral rectrices broadly barred with white, the rest (except middle pair) tipped with white; a more or less distinct superciliary stripe of white (sometimes nearly obsolete); under parts white, marked everywhere (except on chin and upper throat—sometimes on these) with roundish spots of black or dusky; axillars immaculate white; inner webs of primaries (except outermost) with a longitudinal patch of white, increasing in width toward the innermost, on which the white extends to shaft; maxilla black, with yellowish tomia, the mandible mostly or wholly yellow (in life); iris dark brown; legs and feet pale grayish olive (in life).

^a [*Tringa*] *hypoleucos* Linnaeus, Syst. Nat., ed. 10, i, 1758, 149 (Sweden); ed. 12, i, 1766, 250.—*Tringa hypoleucos* Temminck, Cat. Syst., 1807, 171.—*Actitis hypoleucos* Boie, Isis, 1822, 560; Naumann, Vög. Deutschl., viii, 1836, 7, pl. 194; Stejneger, Bull. U. S. Nat. Mus. no. 29, 1885, 131.—*Totanus hypoleucos* Temminck, Man. d'Orn., 1815, 424; Vieillot, Nouv. Dict. d'Hist. Nat., vi, 1816, 407.—*Totanus hypoleucos* Seebohm, Geog. Distr. Charadriidae, 1887, 371.—*Guinetta hypoleuca* Gray, List Gen. Birds, 1840, 68.—*Tringoides hypoleucus* Bonaparte, Saggio Distr. Metod., 1831, 58; Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 456, 762.—*Totanus guinetta* Leach, Syst. Cat. Mam., etc., Brit. Mus., 1816, 30 (ex *Tringa guinetta* Brisson).—*Trynga leucoptera* Pallas, Zoogr. Rosso-Asiat., ii, 1826, 196.—(?) *Tringa leucoptera* Schalow, Journ. für Orn., 1891, 260 (Kodiak Island, Alaska).—*Actitis cinclus* Boie, Isis, 1826, 327.—*Actitis stagnatilis* Brehm, Vög. Deutschl., 1831, 649.—*Actitis empusa* Gould, Proc. Zool. Soc. Lond., 1847, 222 (Port Essington, Australia).—*Totanus empusa* Gray, Cat. Birds New Guinea, 1859, 52.—*Tringoides empusa* Sclater, Journ. Proc. Linn. Soc., ii, 1858, 170.—[*Actitis*] *schlegeli* Bonaparte, Compt. Rend., xliii, 1856, 597.

Winter plumage.—Above plain grayish olive, or bronzy olive, with a faint metallic gloss, the feathers with more or less distinct dusky shaft-streaks, but without other markings except on wing-coverts, which are more or less barred with dusky; under parts immaculate white, faintly shaded across chest (more distinctly so laterally) with brownish gray; otherwise as in summer.

Young.—Similar to the winter plumage but wing-coverts, scapulars, and upper tail-coverts narrowly barred, more or less distinctly with pale buff and dusky; mandible dull purplish or livid flesh color basally (in life).

Downy young.—Above light brownish gray or drab, minutely freckled with dusky; pileum with a median streak of black, extending from middle of forehead to nape; a similar black streak down middle of back and rump; sides of head (including superciliary region), sides of neck, chin, and throat grayish white, the rest of under parts immaculate pure white; a very narrow streak of black from bill to eye, sometimes interrupted on or near middle portion; a narrow postocular streak of black, extending from eye to nape.

Adult male.—Wing, 89–105 (100.5); tail, 45–53 (49); exposed culmen, 21.5–25.5 (23.6); tarsus, 19.5–24 (22.2); middle toe, 18–22 (19.4).^a

Adult female.—Wing, 100–109 (104); tail, 47–53 (50.4); exposed culmen, 21.5–25 (23.6); tarsus, 21–25 (22.8); middle toe, 18–21 (19.7).^b

Breeding nearly throughout temperate and subarctic North America, northward to tree limit in northwestern Alaska, northern Mackenzie, central Keewatin, northern Ungava, and Newfoundland, southward to southern California, Arizona, southern Texas, southern Louisiana, and northern South Carolina; migrating southward over whole of Mexico, Central America, West Indies, and South America, as far as southern Brazil (São Paulo; Chapada, Mattogrosso), Bolivia (San Francisco; lower Rio Beni) and Peru (Lima; Huambo; Tumbes; La Mercéd; Huaynapata); Bermudas (possibly breeding), Cocos

^a Eighteen specimens.

^b Seventeen specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Twelve adult males from eastern North America.....	102.7	50.2	23.8	22.6	19.6
Five adult males from western North America.....	96.1	46.6	23.2	21.6	19.2
FEMALES.					
Ten adult females from eastern North America.....	104.3	50.6	23.9	22.9	19.8
Seven adult females from western North America (including Alaska).....	103.6	50	23.1	22.7	19.6

Island, and Galápagos Archipelago (Abingdon and Albemarle islands) in migration; accidental on British Islands.

- [*Tringa*] *macularia* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 249 (Pennsylvania; based on *Spotted Tringa*, *Tringa maculata* Edwards, Glean. Nat. Hist., ii, 1740, 139, pl. 277, lower fig.).—GMELIN, Syst. Nat., i, pt. ii, 1789, 672.—LATHAM, Index Orn., ii, 1790, 734.—TURTON, Syst. Nat., i, 1806, 404.
- Tringa macularia* WILSON, Am. Orn., vii, 1813, 60, pl. 59, fig. 1.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 86 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [168].—YARRELL, Hist. Brit. Birds, ii, 1843, 544.—BRYANT, Journ. für Orn., 1866, 191 (Porto Rico); Proc. Bost. Soc. N. H., x, 1866, 257 (Porto Rico).
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- Actitis macularius* NAUMANN, Vög. Deutschl., viii, 1836, 34, pl. 195.—BONAPARTE, Geog. and Comp. List, 1838, 51.—GOSSE, Birds Jamaica, 1847, 349.—BURNETT, Proc. Bost. Soc. N. H., iv, 1851, 116 (upper South Carolina).—MACGILLIVRAY, Hist. Brit. Birds, iv, 1852, 356.—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (America; Europe, accidental).—CABANIS, Journ. für Orn., 1856, 417 (Cuba).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 83.—FINSCH, Proc. Zool. Soc. Lond., 1870, 588 (Trinidad; crit.).—GOULD, Birds Great Brit., iv, 1873, pl. 59 and text.—TACZANOWSKI, Orn. du Pérou, iii, 1886, 369 (Tumbes; Huambo).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 109 (lower Rio Beni, Bolivia, Aug.).—REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, lxxvi, 1910, 96 (coast of Piahy, n. e. Brazil).—SMITH (A. F.), Wilson Bull., xxvi, 1914, 81-86 (nesting habits, etc.; photograph of nest and eggs on pp. 84, 85).
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- Actitis macularia* MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 97.—GUNDLACH, Journ. für Orn., 1856, 417 (Cuba); 1862, 86 (Cuba).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 229.—SUNDEVALL, Oefv. K. Vet.-Ak. Förh. Stockholm, 1869, 587 (St. Bartholomew), 602 (Porto Rico).—BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. Lond., 1883, 577 (Chimbo, w. Ecuador).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 247 (Port Chimo, Ungava, breeding); Contr. N. H. Alaska, 1886, 190 (Alaska).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 263; 3d ed., 1910, p. 124.—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 91 (upper Kowak River, Alaska, July).—NELSON, Rep. N. H. Coll. Alaska, 1887, 120 (Nulato; Sitka).—CORY, Auk, iv, 1887, 180 (Old Providence Island, Caribbean Sea), 181 (St. Andrews Island), 318 (West Indian localities and references); vi, 1889, 32 (Cayman Brac); vii, 1890, 375 (Tortola); Birds West Ind., 1889, 239; Cat. West Ind. Birds, 1892, 94.—PETERS, Journ. für Orn., 1892, 120 (Curaçao).—CHERRIE, Auk, ix, 1892, 329 (San Jose, Costa Rica, Sept. 1 to March 1; "A few . . . remain all the year and breed").—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 395, 408 (Lima, Peru, Nov.).—ALLEN, Bull. Am. Mus. N. H., v, 1893, 150 (Chapada, Matto Grosso, s. w. Brazil).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 76 (Trinidad).—ELLIOT, N. Am. Shore Birds, 1895, 149, pl. 46.—MERRILL (J. C.), Auk, xv, 1898, 54 (as to removing young).—MITCHELL, Auk, xv, 1898, 307 (San Miguel Co., New Mexico, breeding).—ANTHONY, Auk, xv, 1898, 316 (Socorro Island, Revillagigedo group, w. Mexico, 1 spec., May 14).—BEYER, Proc. Louisiana Soc. Nat. for 1897-99 (1900), 96 (breeding near New Orleans).—BIGELOW, Auk, xix, 1902, 29 (coast n. e. Labrador, breeding).—HUNT, Wilson Bull., no. 51, 1905, 51, 52 (habits).—VERRILL (A. E. and A. H.), Proc. Ac. Nat. Sci. Phila., 1909, 356 (Santo Domingo).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 420 (San Jose, Bolson, Carillo, Guapiles, Ujarras de Terraba, Tucuriqui, and La Estrella de Cartago, Costa Rica).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 41 (Porto Rico in winter; food).—NOBLE, Bull. Mus. Comp. Zool., lx, 1916, 366 (Guadeloupe; resident?).
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- [*Tringoides*] *macularius* **GUNDLACH**, *Journ. für Orn.*, 1861, 340 (Cuba).—**GRAY**, *Hand-list*, iii, 1871, 46, no. 10280.—**COUES**, *Key N. Am. Birds*, 1872, 260.—**SCLATER** and **SALVIN**, *Nom. Av. Neotr.*, 1873, 146.—**CORY**, *List Birds West Ind.*, revised ed., 1886, 27.—**SHARPE**, *Hand-list*, i, 1899, 161.—**FORBES** and **ROBINSON**, *Bull. Liverp. Mus.*, ii, no. 2, 1899, 71 (Bermudas; Bolafios, Jalisco; Belize, Brit. Honduras; Jamaica; Surinam; Peru; etc.).
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- Tringoides hypoleucus* . . . var. *macularius* **RIDGWAY**, *Bull. Essex Inst.*, v, Nov., 1873, 187 (Colorado).
- Tringoides hypoleucus* . . . var. *macularius* **RIDGWAY**, *Ann. Lyc. N. Y.*, x, 1874, 384 (Illinois).
- Tringoides hypoleucus macularius* **RIDGWAY**, *Bull. Essex Inst.*, vii, Jan., 1875, 31 (Salt Lake City, Utah).
- Tringoides hypoleucus macularius* **RIDGWAY**, *Bull. Essex Inst.*, vii, Jan., 1875, 34 (Parleys Park, Utah, breeding).
- Tringoides hypoleucus* . . . var. *macularius* **RIDGWAY**, *Bull. Essex Inst.*, vii, Jan., 1875, 39 (Nevada).
- [*Tryngodes*] *macularia* **HEINE** and **REICHENOW**, *Nom. Mus. Hein. Orn.*, 1890, 327.
- Actiturus macularius* **REICHENBACH**, *Grallatores*, 1850, pl. 74, fig. 591, pl. 358, figs. 2811, 2812.
- Tringites macularius* **SCLATER** and **SALVIN**, *Proc. Zool. Soc. Lond.*, 1873, 309 (Chamicuro, e. Peru.)
- [*Actitis*] *notata* **BONAPARTE**, *Compt. Rend.*, xliii, 1856, 597.
- Tringoides hypoleuca* (not *Tringa hypoleucos* Linnæus) **LÉOTAUD**, *Ois. Trinidad*, 1866, 458.
- Tringoides hypoleucus* **FRANTZIUS**, *Journ. für Orn.*, 1869, 377 (Costa Rica).
- Tringa bairdi* (not of Coues) **GRINNELL** (J.), *Auk*, xv, 1898, 126 (Sitka; see Grinnell, *Condor*, iv, 1902, 17).

^a According to Gurney (*Naturalist*, 1895, 311,312) most if not all of the British records are erroneous and pertain to *A. hypoleucos*!

Genus BARTRAMIA Lesson.

Bartramia LESSON, *Traité d'Orn.*, 1831, 553. (Type, by monotypy, *B. laticauda* Lesson = *Tringa longicauda* Bechstein.)

Bartramius (emendation) BONAPARTE, *Rev. et Mag. de Zool.*, ser. 2, ix, 1857, 59.

Actidurus BONAPARTE, *Saggio dist. met. Anim. Vert.*, 1831, 143. (Type, *Tringa bartramia* Wilson = *T. longicauda* Bechstein.)

Actiturus (emendation) BONAPARTE, *Geog. and Comp. List*, 1838, 51.

Euliga NUTTALL, *Man. Orn. U. S. and Can.*, *Water Birds*, 1834, 167. (Type, by original designation, *Totanus bartramius* Temminck = *Tringa longicauda* Bechstein.)

Euligia (emendation) GUNDLACH, *Journ. für Orn.*, 1862, 86.

Rather large *Tringinae* (?) (wing 157–181 mm.) with tail nearly half as long as wing, strongly rounded, or graduated; exposed culmen only about half as long as tarsus, the latter less than one-third as long as wing, and nearly twice as long as middle toe without claw, and coloration grayish brown and buffy barred and streaked with black, the under parts largely whitish.

Bill relatively small and slender (about as long as head or slightly shorter), the tip of maxilla slightly but distinctly decurved; exposed culmen more than half as long as tarsus, about as long as middle toe with part of its claw, slightly less than one-fifth as long as wing; nasal groove narrowly cuneate, extending about three-fourths of distance to tip of maxilla, the mandible with a narrow and rather indistinct lateral groove; nostril subbasal, longitudinally linear, in lower edge of nasal fossa; loreal antia much anterior to malar antia, forming a not very definite line, near base of nostrils, and very slightly if at all anterior to the scarcely divided frontal antia; mental antia about on vertical line with anterior end of nostril. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by a little more than half the length of wing, but projecting only slightly beyond tips of the longest tertials, the latter broad basally and gradually tapering to the acuminate tip. Tail nearly half as long as wing, graduated for nearly one-fourth its length, the rectrices (12) slightly narrowed terminally but with broadly rounded tips. Tarsus long and slender, more than one and a half times as long as exposed culmen, less than one-fifth as long as wing, nearly twice as long as middle toe without claw, continuously scutellate anteriorly and posteriorly; bare portion of tibia nearly as long as middle toe with claw, also continuously scutellate before and behind; lateral toes much shorter than middle toe, the outer longer than the inner; a small but distinct web between basal phalanges of outer and middle toes, but none between inner and middle toes.

Coloration.—Above grayish brown and buffy, streaked and barred with blackish, buff predominating on tail; beneath buffy whitish, the foreneck streaked, the chest and sides with V-shaped markings of blackish.

Range.—North America, migrating to South America. (Monotypic.)

BARTRAMIA LONGICAUDA (Bechstein).

UPLAND PLOVER.

Adults in summer (sexes alike).—Pileum dusky grayish brown or dull sooty blackish, divided by a broken or interrupted (sometimes indistinct) median line of pale buffy and more or less streaked with the same, the forehead distinctly streaked with buffy and dusky; nape pale buffy, passing into dull grayish buffy on lower hindneck, narrowly streaked with blackish, the hindneck more broadly streaked with dusky; interscapulars sooty blackish centrally, broadly margined with pale buffy and pale buffy grayish brown; scapulars grayish brown passing into pale buffy on margins and obliquely barred with blackish; anterior lesser wing-coverts grayish brown narrowly margined with pale dull buffy, the remaining coverts pale grayish brown passing into pale buffy brown tipped or terminally margined (broadly) with pale buffy and rather distantly barred with dusky; tertials light grayish brown passing into pale buffy or dull buffy whitish on edges and obliquely barred with blackish; primary coverts dusky; primaries dark grayish brown or dusky, the proximal quills, margined terminally with white, broadly on outer webs, where, on three or four innermost quills more or less spotted with white; rump and upper tail-coverts plain dusky or sooty blackish, the longer upper tail-coverts more or less margined and spotted on terminal portion with light buffy grayish brown and pale buffy, the lateral ones with outer webs largely dull buffy white and with more or less of the same on terminal portion of inner webs; tail passing from grayish brown (indistinctly paler on edges) on middle pair of rectrices through pinkish buff or light pinkish cinnamon into pale pinkish buff on outermost pair, on which the outer web and broad terminal space on inner web are white—the four outermost (on each side) broadly tipped with white and with a broad, more or less sagittate, subterminal bar of black, the four middle rectrices obliquely barred (on both webs) with black, the lateral ones with much fewer and less regular black bars and other markings; sides of head, posteriorly, sides of neck, foreneck, and chest pale buff, narrowly streaked with black; loreal, suborbital, and malar regions, chin, throat, and under parts of body dull buffy white, immaculate on malar region, chin, throat lower breast (except laterally), abdomen, anal region, and under tail-coverts, the upper breast and sides of lower breast with V-shaped markings of black, the sides and flanks with bars (somewhat V-shaped anteriorly) of the same; axillars white regularly barred with slate-blackish, the under wing-coverts white, spotted and barred with the same; maxilla blackish edged (except terminally) with light brownish or dull yellowish;

mandible pale brownish or dull yellowish, dusky at tip; iris dark brown; legs and feet light brownish (yellowish gray in life).

Winter plumage.—Similar in pattern to the summer plumage, but the general coloration much more decidedly buffy.

Young.—Similar to adults, but buff of head, neck, chest, wings, etc., much deeper, streaks on foreneck and chest much less distinct, and interscapulars plain blackish with distinct buff margins.

Downy young.—Sides of head and under parts immaculate dull white; forehead (except laterally) pale buffy grayish brown, with a rather indistinct central spot of dusky; crown and occiput pale buffy grayish brown, longitudinally but irregularly mottled with black and margined with the same; nape with a central spot and lateral broad streaks of black; back, rump, wings, etc., irregularly mottled with black on a ground of pale buffy grayish brown and dull whitish.

Adult male.—Wing, 157–181 (163.3); tail, 79–92 (83.4); exposed culmen, 26–31 (28.2); tarsus, 43.5–49 (46.4); middle toe, 25–28 (26.2).^a

Adult female.—Wing, 161–178 (166.6); tail, 79–89.5 (75.6); exposed culmen, 27.5–32 (29.8); tarsus, 47–50.5 (48.5); middle toe, 25–27 (26.3).^b

Breeding from northern Virginia, southern Indiana, southern Illinois, southern Missouri, southern Oklahoma, Colorado, north-eastern Utah (Kamas Prairie), southern Oregon (Fort Klamath), etc., northward to southern Maine (Oxford County), southern Quebec (Hatley), southern Ontario (islands near Kingston), southern Michigan, central Wisconsin, Manitoba, central Keewatin, southern

^a Ten specimens.

^b Nine specimens.

Locality..	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Pennsylvania (Carlisle, May 20).....	162	79	26	43.5	25
Three adult males from southern Illinois (Richland County, June).....	160.8	81.5	29.2	46.7	27.3
Four adult males from Nebraska (1), North Dakota (2), and Montana (1).....	160.9	82.4	28	47.5	25.7
One adult male from Mackenzie (Fort Smith).....	164	89	28.5	47	25
One adult male from northwestern Alaska (Kowak River).....	181	92	28	43.5	27
FEMALES.					
One adult female from Mackenzie (Fort Smith).....	178	89.5	32	47	25
Five adult females from Montana (1), North Dakota (3), and Kansas (1).....	165.5	81.6	29.7	48.3	26.5
One adult female from southern Illinois (Richland County, June).....	161	84	30	50	26
One adult female from Louisiana (April 8—migrant?).....	168	89	.....	48	27
One adult female from Cuba (Cabañas, May 22).....	165	86	28	50	26.5

Mackenzie, and northwestern Alaska (valley of Kowak River); migrating southward over Mexico, Central America, and West Indies to Argentina (Buenos Aires; Córdoba; Tucumán; Mendoza; Lomas de Zamora; Barracas al Sud; Estancia Espartilla), Uruguay (Concepción), Paraguay (Rio Paraná; Gran Chaco), Bolivia (Tatarenda; Lake Titicaca), Peru (Rio Ucayali; Pebas; Cosnipata; Nauta; Chamicuro; Chorillos; Huaynapata), and Chile; occasional in Bermuda and in western Europe (6 British records, 1 each for Holland, Germany, Italy, and Malta).

Tringa longicauda BECHSTEIN, in Latham's Allg. Ueb. alles bek. Vogel, iv, pt. ii, 1812, 453 (North America).

Bartramius longicaudus BONAPARTE, Rev. et Mag. de Zool., ser. 2, ix, 1857, 59.

Bartramia longicauda DEGLAND and GERBE, Orn. Eur., ii, 1867, 231.—COUES, Bull. Nutt. Orn. Club, v, 1880, 100; Check List, 2nd ed., 1882, no. 640.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. 555); Nom. N. Am. Birds, 1881, no. 555.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 256 (Adirondack region, New York, breeding); Auk, ii, 1885, 315 (Godbout, Quebec, 1 spec., May 7, 1885).—ALLEN and BREWSTER, Auk, viii, 1883, 198 (Colorado Springs, Colorado, April, numerous).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 296.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1884, 440; Man. Brit. Birds, 1889, 589.—DREW, Auk, ii, 1885, 18 (Colorado, 5,000-10,000 ft.).—AGERSBORG, Auk, ii, 1885, 286 (s. e. South Dakota).—SETON, Auk, iii, 1886, 152 (Manitoba, abundant summer resident).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 261; 3rd ed., 1910, p. 123.—TURNER, Contr. N. H. Alaska, 1886, 189 (Alaska).—WELLS, List Birds Grenada, 1886, 8.—TOWNSEND (C. H.), Auk, iv, 1887, 12 (Kowak River, n. w. Alaska, breeding); Cruise 'Corwin' in 1885 (1887), 91 (upper Kowak River, July 15).—NELSON, Rep. N. H. Coll. Alaska, 1887, 119 (Fort Yukon).—LLOYD, Auk, iv, 1887, 186 (Concho Co., w. Texas, migrant).—CORY, Auk, iv, 1887, 319 (West Indian localities and references); ix, 1892, 48 (Maragauna, Bahamas); Birds West Ind., 1889, 240; Cat. West Ind. Birds, 1892, 94.—BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay); 1889, 101 (Tonantins, n. w. Brazil, May); Novit. Zool. xv, 1908, 307 (Cayenne).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 628 (Grenada).—BECKHAM, Proc. U. S. Nat. Mus., ix, 1887, 637, 653 (Bexar Co., Texas).—MERRILL (J. C.), Auk, v, 1888, 145 (Fort Klamath, Oregon, breeding); xiv, 1897, 351 (Fort Sherman, Idaho, breeding).—CHAPMAN, Auk, v, 1888, 270 (Gainesville, Florida, April).—BREWSTER, Auk, v, 1888, 389 (Winchendon, Massachusetts, breeding).—ZELEDÓN, Anal. Mus. Nac. C. R., i, 1888, 129 (Alajuela, Costa Rica).—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 109 (Lake Titicaca, Bolivia, Aug.); v, 1893, 150 (Chapada, Mattogrosso, s. w. Brazil, Sept., Oct., April).—FEILDEN, Ibis, 1889, 497 (Barbados; habits).—SCOTT, Auk, vi, 1889, 158 (Key West, Florida, Oct. 3); ix, 1892, 14 (Jamaica? the single record doubtful), 212 (Caloosahatchie River, Florida, migrant).—CHERRIE, Auk, vii, 1890, 332 (San Jose, Costa Rica, Sept. 25 to Nov. 15).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 503 (Manitoba; habits, etc.).—APTWATER, Auk, ix, 1892, 232 (San Antonio, Texas, migrant).—MACKAY, Auk, ix, 1892, 305 (Nantucket and Tuckernuck islands, Massachusetts, breeding).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 395 (Magdalena Vieja and Lima, Peru, March); Ornith., xiii, 1906, 125 (Huaynapata, Peru, Sept., Oct.).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 526

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- Tringoides bartramius* WOODHOUSE, in Sitgreaves' Rep. Expl. Zufi and Col. R., 1853, 100.—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 295 (Franklin Co., Indiana).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—GRAY, List Brit. Birds, 1863, 162 (Cambridge and Newmarket, England).—LÉOTAUD, Ois. Trinidad, 1866, 463.
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- [*Tringoides*] *bartramia* PELZELN, Orn. Bras., 1870, 457.
- Actitis bartramius* SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 78.
- Totanus bartramii* THIENEMANN, Rhea, i, 1846, 126 (Europe).—GÄTKE, Journ. für Orn., 1856, 377 (England).
- Totanus bartrami* SEEBOHM, Hist. Brit. Birds, iii, 1885, 110, pl. 32 (eggs); Geog. Distr. Charadriidae, 1887, 376.
- Tringa bartramii* HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico).

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- A[ctitis] bartrami* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxiii, 212.
- Actiturus bartrami* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 92.
- Totanus variegatus* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 397 (South America; Antilles); Gal. Ois., ii, 1834, 107, pl. 239.
- Totanus melanopygius* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 401 (central United States; Louisiana).
- Bartramia laticauda* LESSON, Traité d'Orn., 1831, 553 (new name for *Tringa bartramia* Wilson).—ALLEN, Proc. Essex Inst., iv, 1864, 78.
- Totanus campestris* VIEILLOT, Nouv. Dict. d'Hist. Nat., vi, 1816, 400 (Paraguay, based on *Chorlito ribetos blancos acanaledos* Azara, Apunt., p. iii, 312).—HARTLAUB, Syst. Index Azara's Apunt., 1847, 25.
- T[otanus] campestris* VIEILLOT, Tabl. Enc. Méth., iii, 1823, 1098.
- Pavonella pugnax* (not *Tringa pugnax* Linnæus) MACOUN, Cat. Canad. Birds, 1900, 177, part (see Fleming, Auk, xxiii, 1906, 450).

Genus NUMENIUS Brisson.

- Numenius* BRISSON, Orn., v, 1760, 311. (Type, by tautonymy, [*Numenius*] *numenius* Brisson=*Scolopax arquata* Linnæus.)
- Neomenius*^a (emendation) BILLBERG, Synop. Faunae Scand., i, pars 2, 1828, tab. A and p. 159.
- Cracticornis* GRAY, List Gen. and Subgen. Birds, 1841, 88. (Type, *Scolopax arquata* Linnæus.)

Very large Scolopacidæ (wing more than 250 (251–308) mm.) with the long, slender, and distinctly arched or decurved bill longer than tarsus and middle toe, more than half as long as wing; tarsus more than twice as long as middle toe without claw, and tail shorter than tarsus and middle toe.

Bill very long, slender, strongly and regularly decurved from, or posterior to, middle portion, the exposed culmen longer than tarsus and middle toe, longer than tail, more than half as long as wing, narrower than deep (except terminally), the tip (of both maxilla and mandible) slightly expanded; nostrils sub-basal, longitudinally linear, pervious; nasal groove distinct for basal half, or less, only, quite obsolete terminally; loreal and malar antiæ on same vertical line, the mental antia slightly posterior to anterior end of nostril, the frontal antia forming a more or less concave (sometimes nearly straight) line across base of culmen; wing ample, pointed, the outermost primary longest and exceeding distal secondaries by nearly to quite half the length of wing; tertials elongated, but tips of the longest falling considerably short of tips of longest primaries; tail about two-fifths as long as wing or slightly less, slightly but distinctly rounded; rectrices 12; tarsus a little more than one-fourth as long as wing, more than twice as long as middle toe without claw, scutellate anteriorly, covered with hexagonal scales posteriorly; bare portion of tibia about as long

^a *Neomenia*, nova luna, ab formam rostri derivatum videtur. (Billberg.)

as middle toe, covered all around with small hexagonal scales; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner; hallux well developed, slender, about as long as first phalanx of outer toe; interdigital spaces webbed basally, the web between outer and middle toes connecting nearly whole of basal phalanges, that between inner and middle toes smaller; all the anterior toes margined laterally by a distinct though narrow tumid membrane.

Coloration.—General color grayish brown to light pinkish cinnamon, streaked and otherwise variegated with dusky, the under parts of body mostly immaculate whitish or light pinkish cinnamon; some species with rump white.

Range.—Northern Hemisphere. (Three species.)

KEY TO THE SPECIES AND SUBSPECIES OF *NUMENIUS*.

- a. Rump and lower back white; general tone of plumage grayish brown, the under parts and axillars whitish. (Europe and western Asia, south in winter to Cape of Good Hope, Madagascar, and India; accidental on Long Island, New York.)
Numenius arquatus (p. 386).
- aa. Rump and lower back pale cinnamon and dusky, like rest of upper parts; under parts pale pinkish buff, axillars light vinaceous-cinnamon. (*Numenius americanus*.)
 - b. Larger (wing 268.2–308, averaging 279.3 in male, 268.5 in female; exposed culmen 137–219.2, averaging 145.3 in male, 184 in female). (More southern United States, chiefly west of Mississippi River, north to Illinois, Idaho, Utah, Nevada, etc.).....*Numenius americanus americanus* (p. 390).
 - bb. Smaller (wing 251.5–287, averaging 265.6 in male, 268.5 in female; exposed culmen 105.4–170.7, averaging 121.1 in male, 158.7 in female). (Saskatchewan to eastern British Columbia and south to South Dakota, Wyoming, and eastern Oregon—to New Mexico, Texas, etc., in migration.)
Numenius americanus occidentalis (p. 394).

NUMENIUS ARQUATUS (Linnaeus).

EUROPEAN CURLEW.

Adults (sexes alike).—General color of upper parts light grayish brown or grayish buffy (nearly light drab to drab-gray), streaked with dusky, the streaks broadest on back, scapulars, tertials, and wing-coverts, on the tertials throwing off lateral projections; greater coverts and secondaries deep brownish gray or grayish brown, transversely spotted with pale grayish buffy, the bars thus produced (in the closed wing) of the two colors about equal in width or with the pale ones slightly wider than the darker ones; alula, primary coverts, and primaries dusky, the two first margined terminally or narrowly tipped with white (more broadly on proximal coverts), the primaries spotted and terminally margined with white; lower back, rump, and upper tail-coverts white, the first and second immaculate, or nearly so, superficially, but with concealed mesial streaks of grayish dusky,

the upper tail-coverts (sometimes lower rump also) with conspicuous longitudinal, more or less hastate or V-shaped markings of dusky, the longer upper tail-coverts sometimes tinged with pale buffy grayish; tail barred with dull white and dusky grayish brown, the paler bars usually more or less shaded with pale buffy grayish, especially on middle rectrices, on which the pale bars are sometimes wholly grayish buffy; supraocular region and posterior portion of supraloral region dull white, minutely and sparsely flecked with dusky; chin and throat immaculate dull white or buffy white; rest of head and neck, together with chest, very pale grayish buffy (pale vinaceous-buff or tilleul buff) narrowly but sharply streaked with dusky, the breast, sides, and flanks similar but with ground color more nearly white, the flanks more or less spotted or barred with grayish brown; rest of under parts white, the under tail-coverts with narrow mesial streaks of dusky; axillars and under wing-coverts immaculate white, or with scattered streaks or bars of brownish gray; inner webs of primaries brownish gray, barred or transversely spotted with white, these white bars or spots not extending to the shaft and sometimes broken up into an irregular mottling or marbling; maxilla black terminally passing into brown basally, the mandible black terminally with basal half (more or less) light brownish (dull flesh color in life); iris dark brown; legs and feet dusky (more or less grayish in life).

Winter plumage.—"Very similar to the breeding-plumage, but paler, and much less heavily striped, especially on the under surface of the body; the black spots and streaks on the rump scarcely apparent and concealed by the white plumage; upper tail-coverts white, with very few brown cross-bars; tail white, barred with brown."^a

Young.—"Differs from the adult in being much more tawny and . . . may always be distinguished from the old ones by the much lighter pattern of the notches and bars on the innermost secondaries, these markings being tawny-buff, and the black centers to the feathers being much broader."^b

Adult male.—Wing, 285–286 (285.5) tail, 107–108.5 (107.7); exposed culmen, 125–152.5 (138.7); tarsus, 77; middle toe, 42.^c

Adult female.—Wing, 284–304 (294); tail, 117–118.5 (117.7); exposed culmen, 118–131 (124.5); tarsus, 78–79 (78.5); middle toe, 42.^c

Breeding in northern and central Europe, from the British Islands eastward to the Kirghis steppes and plains of the Caucasus, northward to the Scandinavian peninsula, delta of the Dvina and basin the Volga rivers, southward to Holland (and delta of the Rhone?);

^a Sharpe, Cat. Birds Brit. Mus., xxvi, 345.

^b Sharpe, Cat. Birds Brit. Mus., xxvi, 346.

^c Two specimens, from England.

migrating southward to southern Africa (Cape Colony), Madagascar, India, etc.; occasional in Faroe Islands, Azores, and Iceland; accidental in eastern United States (Long Island, New York; see Dutcher, Auk, ix, 1892, pp. 390, 392)?

[*Scolopax*] *arquata* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 145 (Sweden); ed. 12, i, 1766, 242.—Gmelin, Syst. Nat., i, pt. ii, 1789, 655.

[*Numenius*] *arquata* LATHAM, Index Orn., ii, 1790, 710.—SHARPE, Hand-list, i, 1899, 157.

[*Numenius*] *arquatus* LATHAM, Synopsis Birds, Suppl., i, 1787, 291.

Numenius arquatus BODDAERT, Tabl. Pl. Enl., 1783, 50 (Pl. Enl., 318).—VIEILLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 304.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 168.—ROUX, Orn. Prov., 1825, pl. 306.—WERNER, Atlas, Gallatores, 1827, pl. 5.—BREHM, Vög. Deutschl., 1831, 608.—STRICKLAND, Proc. Zool. Soc. Lond., 1836, 101 (Smyrna).—BONAPARTE, Geog. and Comp. List, 1838, 49.—SELYS-LONGCHAMPS, Faune Belge, 1842, 130.—MÜHLE, Beitr. Orn. Griechenl., 1844, 110.—GRAY, List Birds Brit. Mus., iii, Gallæ, 1844, 93; List Brit. Birds, 1863, 153.—HEWITSON, Eggs Brit. Birds, ii, 1846, pl. 79.—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 268 (Calcutta).—THOMPSON, Birds Ireland, ii, 1850, 184 (resident).—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—REICHENBACH, Gallatores, 1851, pl. 78, fig. 539.—KJÆRBÖLLING, Danm. Fugle, 1852, pl. 33a, fig. 4.—BREHM, Journ. für Orn., 1854, 81 (Khartoum).—HEUGLIN, Syst. Uebers., 1856, 62; Orn. N. O.-Afrika, ii, pt. 1, 1873, 1146.—HARTLAUB, Orn. W.-Afrika, 1857, 232.—LINDERMAYER, Vög. Griechenl., 1860, 147.—NEWTON, in Baring-Gould's Iceland, 1863, 413.—JERDON, Birds India, iii, 1864, 683.—SUNDEVALL, Svensk. Fogl., 1865, pl. 38, fig. 2.—LAYARD, Birds South Africa, 1867, 322.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 159.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 331.—COLLETT, Norges Fugle, 1868, 57.—FINSCH and HARTLAUB, Vög. Ost-Afrika, 1870, 736.—BLANFORD, Geol. and Zool. Abyssinia, 1870, 432.—STEVENSON, Birds Norfolk, ii, 1870, 194.—GODMAN, Azores, 1870, 34.—FRITSCH, Vög. Eur., 1870, pl. 40, fig. 4.—SALVADORI, Faun. Ital., Ucc., 1871, 233; Ucc. Borneo, 1874, 332; Elenco Ucc. Ital., 1887, 182 (Liu Kiu Islands).—GRAY (R.), Birds West Scotland, 1871, 287.—GURNEY, in Andersson's Birds Damara-Land, 1872, 299.—HARTING, Handb. Brit. Birds, 1872, 53.—SHARPE, Ibis, 1872, 74 (Nagua River, w. Africa); ed. Layard's Birds South Africa, 1884, 692; Cat. Birds Brit. Mus., xxiv, 1896, 341, 753.—SHELLEY, Birds Egypt, 1872, 243.—PALMÉN, Finlands Foglar, 1873, 118.—SEVERTZOW, Turkeet, Jevotn., 1873, 69.—DRESSER, Birds Europe, viii, 1873, 243, pl. 578.—SAXBY, Birds Shetl., 1874, 190.—IRBY, Orn. Straits Gibralt., 1875, 178; 2nd ed., 1895, 290; Key List Brit. Birds, 1888, 49.—FALLON, Ois. Belg., 1875, 168.—BLANFORD, East. Persia, ii, 1876, 286.—BOGDANOW, Birds Caucas., 1879, 156.—BOCAGE, Orn. Angola., 1881, 461.—FORBES, Proc. Zool. Soc. Lond., 1881, 644 (anatomy).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 179.—OATES, Handb. Birds Brit. Burma, ii, 1883, 412.—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 499; Man. Brit. Birds, 1889, 611.—MURRAY, Vertebr. Fauna Sind, 1884, 247.—TRISTRAM, Fauna and Flora Palestine, 1884, 134.—BOGDANOW, Consp. Av. Imp. Ross., 1884, 81.—RADDE, Orn. Caucas., 1884, 45, 436 (breeding at 6,300 feet).—VORDERMAN, N. T. Nederl. Ind., xlv, 1884, 204 (Java).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 94; Geog. Distr. Charadriidæ, 1887, pp. xxii, 322, figs.—HARVEY-BROWN and BUCKLEY, Vertebr. Fauna Sutherl., Caithn., and West Cromarty, 1887, 226; Vertebr.

- Fauna Outer Hebrides, 1888, 138.—REICHENOW, Syst. Vög. Deutschl., 1889, 46; Vög. Deutsch-Ost-Afrika, 1894, 43.—GIGLIOLI, Avif. Ital., 1st Resoc., 1889, 621; 2nd Resoc., 1890, 656; 3rd Resoc., 1891, 514.—LILFORD, Col. Figs. Brit. Birds, pt. xix, 1891.—MADARÁSZ, Erläut. Aust. Ungar. Vogelf., 1891, 107.—FRIVALDSKÝ, Aves Hung., 1891, 137.—REISER, Vogels Mus. Sarajevo, 1891, 119.—GÄTKE, Vogelw. Helgoland, 1891, 473.—BUCKLEY and HARVEY-BROWN, Vertebr. Fauna Orkneys, 1891, 224; Vertebr. Fauna Argyll and Inner Hebrides, 1892, 184.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 46.—MACPHERSON, Vertebr. Faun. Lakeland, 1892, 406.—MARSHALL, Auk, ix, 1892, 390 (Long Island, New York, in 1853; see comments by Dutcher, immediately following).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2nd ed., 1895, 328 (Hypothetical List, no. 11.1); 3rd ed., 1910, 371.
- Numenius arquata* TEMMINCK, Cat. Syst., 1807, 169; Man. d'Orn., ii, 1820, 603.—NAUMANN, Vög. Deutschl., viii, 1836, 478, pl. 216; xiii, 1847, 248.—GOULD, Birds Europe, iv, 1837, pl. 302 and text; Birds Great Brit., iv, 1869, pl. 48 and text.—YARRELL, Hist. Brit. Birds, ii, 1843, 510; 2nd ed., ii, 1845, 577; 3rd ed., ii, 1856, 610.—SCHLEGEL, Rev. Crit., 1844, p. xcv; Vog. Nederl., 1854, 247; Dier. Nederl. Vogels, 1861, pl. 22, fig. 8; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 85.—MACGILLIVRAY, Brit. Birds, iv, 1852, 243.—LEGGE, Ibis, 1874, 29 (s. Ceylon); 1875, 402 (s. Ceylon).—KELHAM, Ibis, 1882, 16 (localities on Malay Peninsula; habits).—SEEBOHM, Ibis, 1882, 224 (Astrakhan, spring and autumn; Kirghiz steppes, breeding), 382 (Archangel, Russia).—DIXON, Ibis, 1885, 85 (St. Kilda).—NIELSEN, Ornið, vol. 3, 1887, 157 (Iceland).—PEARSON and BIDWELL, Ibis, 1894, 236 (n. Norway).—RIDGWAY, Man. N. Am. Birds, 2nd ed., 1895, 588.—POYNTING, Eggs Brit. Birds, pt. iii, 1896, 243, pls. 51, 52.—POPHAM, Ibis, 1897, 106 (Yeneseisk, Siberia).—WALTON, Ibis, 1903, 33 (Pekin, China).—JESSE, Ibis, 1903, 163 (Lucknow, India).—WITHERBY, Ibis, 1903, 565 (Fars, s. w. Persia).
- N[umenius] arquata* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxviii, 217.—TACZANOWSKI, Journ. für Orn., 1871, 57 (crit.).
- Cracticornis arquatus* GRAY, List Gen. and Subgen. Birds, 1841, 48.
- Numenius arcuata* HOLM, Naturhist. Tidssk., 2nd ed., ii, 1848, 513 (Faroe Islands).—DROSTE, Journ. für Orn., 1869, 343 (Faroes).
- Numenius arcuatus* USSHER, Ibis, 1874, 74 (Gold Coast, w. Africa).—REICHENOW, Journ. für Orn., 1877, 12 (Loango Coast, w. Africa).—KOENIG, Journ. für Orn., 1890, 454 (Canary Islands); 1893, 88 (Tunis, Algeria).—SCLATER, Proc. Zool. Soc. Lond., 1897, 189 (Mozambique).
- [*Scolopax*] *madagascariensis* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 242 (Madagascar; based on *Courly de Madagascar* Brisson, Orn., v, 1760, 321, pl. 28).—GMELIN, Syst. Nat., i, pt. ii, 1789, 655.
- Numenius madagascariensis* BODDAERT, Tabl. Pl. Enl., 1783, 12 (Pl. Enl., pl. 198).—VIEILLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 306.—GRAY, List Birds Brit. Mus., iii, 1844, Grallæ, 93.—NEWTON (E.), Ibis, 1863, 457 (Madagascar); Trans. Norfolk Soc., 1889, 553 (Réunion; Seychelles; Rodriguez).—SCHLEGEL and POLLEN, Faun. Madagasc., Ois., 1868, 133.—SHARPE, Proc. Zool. Soc. Lond., 1869, 571.—HARTLAUB, Vög. Madagasc., 1877, 323.
- [*Numenius*] *madagascariensis* LATHAM, Index Orn., ii, 1790, 710.—BONAPARTE, Compt. Rend., xliii, 1856, 597.—GRAY, Hand-list, iii, 1871, 42, no. 10, 244.
- Numenius arquatus* var. *madagascariensis* MILNE-EDWARDS and GRANDIDIER, Nat. Hist. Madagasc., Ois., 1882, 619, pl. 254.
- Numenius arquatus madagascariensis* SIBREE, Ibis, 1892, 115 (Madagascar).
- Numenius major* STEPHENS, Shaw's Gen. Zool., xii, pt. 1, 1824, 26 (new name for *Scolopax arquata* Linnæus).—SHARPE, Ibis, 1886, 168 (Muscat, Arabia).
- Numenius virgatus* CUVIER, Règne Anim., i, 1829, 521 (Cape Good Hope).

- Numenius lineatus* CUVIER, Règne Anim., i, 1829, 521 (India).—HUME, Stray Feath., i, 1873, 237 (Sind); ii, 1874, 296 (Andaman Islands, Aug. to April); iv, 1876, 464 (Laccadives); xi, 1888, 322 (Manipur).—ADAM, Stray Feath., i, 1873, 396 (Sambhur).—LLOYD, Ibis, 1872, 417 (Kathiawar).—BLYTH and WALDEN, Birds Burma, 1875, 155 (Arakan; Kyasoo Creek).—ARMSTRONG, Stray Feath., iv, 1876, 341 (Rangoon).—DAVIDSON and WENDEN, Stray Feath., vii, 1878, 89 (Deccan).—SCULLY, Stray Feath., vii, 1878, 350 (Nepal Valley).—BUTLER, Cat. Birds Sind, etc., 1870, 62 (winter); Cat. Birds S. Bombay Pres., 1880, 76 (winter visitant).—LEGGE, Birds Ceylon, 1880, 906.—BLAKISTON, Amended List Birds Japan, 1884, 39.—SEEBOHM, Ibis, 1884, 34 (Japan), 268 (Kiukiang, China).—EVERETT, Journ. Straits Branch Asiat. Soc., 1889, 208 (Borneo).—WHITEHEAD, Ibis, 1890, 59 (Palawan Island, Philippines).—STYAN, Ibis, 1891, 331, 508 (lower Yangtee River, winter); 1893, 437 (Hainan).—DE LA TOUCHE, Ibis, 1892, 501 (Foochow and Swatow, China, winter).
- Numenius arquatus lineatus* SEEBOHM, Geog. Distr. Charadriidae, 1887, 324; Birds Japanese Emp., 1890, 314.—TACZANOWSKI, Faun. Orn. Siber. Orient., pt. ii, 1893, 938.
- Numenius medius* BREHM, Vög. Deutschl., 1831, 609 (Germany); Vogelf., 1855, 303 (Greece; Germany); Naumannia, 1855, 291.
- Numenius orientalis* BREHM, Vög. Deutschl., 1831, 610 (East Indies); Vogelf., 1855, 302; Naumannia, 1855, 291.
- Numenius nasicus* TEMMINCK, Man. d'Orn., iv, 1840, 393 (Borneo; Sumatra).
- Numenius arquatus* HODGSON, in Gray's Zool. Misc., 1844, 86 (Nepal, India; type in coll. Brit. Mus.).—GRAY, Cat. Mam., etc., Nepal pres. Hodgson, 1846, 137.
- (?) *Numenius hudsonius* (not of Latham) BREHM, Journ. für Orn., 1854, 81 (Charthum, Sudan).
- Numenius assimilis* BREHM, Vogelf., 1855, 302 (s. Germany); Naumannia, 1855, 291.
- Numenius rufescens* (not of Gould) BREHM, Vogelf., 1855, 302 (s. Europe; n. Africa); Naumannia, 1855, 291.
- Numenius longirostris* (not of Wilson) BREHM, Vogelf., 1855, 303 (s. Europe; Africa, winter); Naumannia, 1855, 291.
- Numenius tenuirostris* (not of Vieillot) HEUGLIN, Syst. Ueb., 1856, 62; Ibis, 1859, 347 (Red Sea; Gulf of Suez; Arabia Petraea; Massaua, Aug.: Gulf of Aden, Oct. to Dec.).
- Numenius cassini* SWINHOE, Ibis, 2nd ser., iii, Oct., 1867, 398 (Amoy, China; coll. R. Swinhoe).

NUMENIUS AMERICANUS AMERICANUS Bechstein.

LONG-BILLED CURLEW.

Adults in summer (sexes alike).—General color light pinkish cinnamon, the head (except chin and throat, which are much paler), neck (all round), and chest streaked with dusky grayish brown, the streaks much broader and more blackish on pileum; back and scapulars striped and barred with dusky grayish brown, the median portion of each feather dusky, from which dusky bars are projected, across each web, to the margin, producing a coarse "herring-bone" pattern; smaller wing-coverts with a median broad cuneate streak of dusky grayish brown, the greater coverts, together with secondaries, nar-

rowly and rather distantly barred with grayish brown, the bars connected, rather narrowly, along the median line of each feather; primary coverts and four outer primaries dusky, the fourth primary (from outside) spotted or otherwise marked along edge with light pinkish cinnamon; proximal primaries light pinkish cinnamon, rather distantly barred with dusky, the bars confluent along shafts of the quills; shaft of outermost primary white, of the others brown; rump dusky, the feathers conspicuously spotted (on each web) with light pinkish cinnamon; upper tail-coverts and tail light pinkish cinnamon, barred with dusky grayish brown; sides and flanks sparsely and rather narrowly barred (mostly if not wholly on outer webs of feathers) with grayish brown; axillars and under wing-coverts much deeper pinkish cinnamon (approaching cinnamon), sometimes immaculate, sometimes sparsely and narrowly barred with grayish brown; bill dusky, the basal portion of mandible paler (dull grayish flesh color or lilaceous in life); iris dark brown; legs and feet dusky (grayish in life).

Winter plumage.—Similar to summer adults, but the general coloration deeper pinkish vinaceous, especially the under parts.

Downy young.—General color buff, deeper and inclining to ochraceous-buff on under parts; upper parts, including pileum, coarsely and rather sparsely marbled or irregularly spotted and streaked with black.

Adult male.—Wing, 268.2–288 (279.3); tail, 105.5–128.3 (114.2); exposed culmen, 137–155.2 (145.3); tarsus, 77–90.4 (83.2);^a middle toe, 37–40.2 (39.7).^b

Adult female.—Wing, 268–308 (291.3); tail, 104–135.6 (118.4); exposed culmen, 163–219.2 (184); tarsus, 81–93.7 (86.9);^c middle toe, 39.5–43 (41.6).^d

More southern United States, breeding northward to northeastern Illinois (formerly), Utah, southern Idaho (American Falls; Dickey), eastern Nevada (Franklin Lake), etc., southward to Florida (Caloosahatchie River; Punta Rassa), southern Texas, southern Arizona, etc.; now practically restricted to country west of Mississippi River and along Gulf coast, but formerly occurring over whole of eastern United States, and northward (more rarely) as far as Newfoundland, Labrador(?), Ontario, etc.; wintering along southern Atlantic and Gulf coasts of United States (South Carolina to Texas) and in Mexico, also (occasionally, at least) in Cuba, Jamaica, Guadeloupe, St. Vincent, and Grenada.

^a Ten specimens, including three measured by Dr. Louis B. Bishop.

^b Seven specimens.

^c Eleven specimens, including six measured by Dr. Bishop.

^d Five specimens.

It is evident that Dr. Bishop's measurement of the tail is different from mine, his measurements being considerably greater.

- [*Scolopax arquata*] β GMELIN, Syst. Nat., i, pt. ii, 1789, 656 (North America).
 [*Numenius arquata*] β LATHAM, Index Orn., ii, 1790, 710 (North America).
Numenius americanus BECHSTEIN, in Latham, Allg. Ueb. Vögel, iv, pt. ii, 1812, 432 (New York).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 368, part; Check List, 3rd ed., 1910, 124, part.
Numenius americanus americanus PHILLIPS, Auk, xxviii, Jan., 1911, 74 (Matamoros, Tamaulipas, Feb.).
Numenius longirostra WILSON, Am. Orn., viii, 1814, 23, pl. 64, fig. 4 (New Jersey).
Numenius longirostris BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 72 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [154].—GRAY, Gen. Birds, iii, 1847, 560.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois); Man. N. Am. Birds, 1887, 170, part.—NELSON, Bull. Essex Inst., viii, 1876, 130, 153 (n. e. Illinois, summer resident, formerly abundant, now rare; breeding also in central parts of Illinois).—NEWTON (A. and E.), Handb. Jamaica, 1881, 116.—COUES, Key N. Am. Birds, 2nd ed., 1884, 645.—MACKAY, Auk, ix, 1892, 350 in text (Swampscott, Massachusetts, 1 pair, "a number of years ago;" Nantucket Island, 1 spec., about 1887).
Numenius longirostris BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 314; Geog. and Comp. List, 1838, 49.—(?) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 376, part.—LESSON, Traité d'Orn., 1831, 565.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 94, part.—AUDUBON, Orn. Biog., iii, 1835, 240, part, pl. 231; v, 1839, 587; Synopsis, 1839, 254, part; Birds Am., 8vo ed., vi, 1843, 35, part, pl. 355.—PEABODY, Rep. Orn. Mass., 1839, 365.—GIRAUD, Birds Long Is., 1844, 271.—DENNY, Proc. Zool. Soc. Lond., 1847, 39 (Jamaica).—LEMBEYE, Aves de la Isla de Cuba, 1850, 85.—REICHENBACH, Grallatores, 1850, pl. 78, fig. 544, pl. 359, figs. 2815, 2816.—MCCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 223 (Texas).—BAIRD, in Rep. Stansbury's Expl. Great Salt Lake, 1852, 320 (Salt Lake Valley, etc.); Cat. N. Am. Birds, 1859, no. 549; Rep. U. S. and Mex. Bound. Surv., ii, pt. 2, 1859, 25; Rep. Pacific R. R. Surv., x, no. 2, 1859, 15 (Great Salt Lake, May 15).—WOODHOUSE, in Sitgreaves' Rep. Expl. Zuni and Col. R., 1853, 98 (Indian Terr.; Texas).—WAILLES, Rep. Agric., etc., Mississippi, 1854, 322.—KENNICOTT, Trans. Illinois Agric. Assoc., i, 1855, 588 (Illinois); PRATTEN, Trans. Illinois Agric. Assoc., i, 1855, 608 (Illinois).—PUTNAM, Proc. Essex Inst., i, 1856, 218 (Massachusetts).—CABANIS, Journ. für Orn., 1856, 349 (Cuba).—HAYMOND, Proc. Ac. Nat. Sci. Phila., viii, 1856, 294 (Franklin Co., Indiana).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 743, part.—WILLIS, An. Rep. Smithsonian Inst. for 1858 (1859), 285 (Nova Scotia).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba); xvii, 1875, 446 (New England).—GUNDLACH, Journ. für Orn., 1862, 84 (Cuba; crit.); 1875, 320 (Cuba); Repert. Fisico-Nat. Cuba, i, 1866, 352.—ALBRECHT, Journ. für Orn., 1862, 206 (Jamaica).—TAYLOR, Ibis, 1862, 129 (Florida).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 129 (Calais, Maine).—VERRILL, Proc. Essex Inst., iii, 1862, 158 (Oxford Co., Maine).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 68 (Jamaica).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (*Scolopaces*), 1864, 85, part (Texas).—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Springfield, Massachusetts); Bull. Mus. Comp. Zool., iii, 1872, 182 (Kansas).—COUES, Ibis, 1865, 158 (Kansas); Proc. Bost. Soc. N. H., xii, 1868, 123 (South Carolina); Proc. Essex Inst., v, 1868, 296 (New England); Proc. Ac. Nat. Sci. Phila., xxiii, 1871, 32 (Fort Macon, North Carolina); Check List, 1873, no. 441, part; 2d ed., 1882, no. 643, part; Birds Northwest, 1874, 508, part.—HOY, An. Rep. Smithsonian Inst. for 1864 (1865), 438 (Missouri).—DRESSER, Ibis, 1866, 40 (Matamoros, Tamaulipas, July, Aug.; San Antonio, Texas, winter; Galveston Island, May, June).—MCLWRAITH, Proc.

- Essex Inst., v, 1866, 93 (Hamilton, Ontario).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City); Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent, Lesser Antilles), 451, 488 (Guadeloupe).—TURNBULL, Birds E. Penn. and N. J., 1869, 41 (Phila. ed., 32).—TRIPPE, Proc. Essex Inst., vi, 1871, 119 (Minnesota, spring); Proc. Bost. Soc. N. H., xv, 1873, 241 (Decatur Co., Iowa).—AIKEN, Proc. Bost. Soc. N. H., xv, 1872, 210 (Colorado, breeding); xvii, 1874, 67 (Missouri and Musselshell rivers).—ALLEN, Am. Nat., vi, 1872, 272 (Kansas).—MERIAM, Sixth An. Rep. U. S. Geol. Surv. Terr., 1872 (1873), 701, 714 (Bear River and Salt Lake, Utah); Bull. Nutt. Orn. Club, vii, 1882, 256 (near Plattsburg, New York, formerly).—RIDGWAY, Bull. Essex Inst., vii, 1875, 31 (Salt Lake Valley, Utah, breeding), 34 (Parleys Park, Utah, rare); Field and Forest, ii, 1877, 211 (Colorado), Orn. 40th Parallel, 1877, 611 (Antelope Island and s. shore Great Salt Lake, June, breeding); Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. 558, part); Nom. N. Am. Birds, 1881, no. 558, part.—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 348 (Salt Lake City, Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 11 (Great Salt Lake Valley); Zool. Expl. W. of 100th Merid., 1875, 461 (Fairfield, Utah; St. Charles River, Colorado, Aug.).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 55 (Brownsville, Texas).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 162 (Fort Brown, Texas, resident).—MAYNARD, Birds E. N. Am., 1879, 398.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 311, part.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 248 (Labrador).—DREW, Auk, ii, 1885, 18 (plains of Colorado).—LAWRENCE (N. T.), Auk, ii, 1885, 273 (Far Rockaway, Long Island, Aug. 20, 1873, and Aug. 26, 1885).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 264, part.—CORY, Auk, iv, 1887, 320 (West Indian localities and references); Birds West Ind., 1889, 241; Cat. West Ind. Birds, 1892, 94 (Cuba; Jamaica; St. Vincent).—BECHKAM, Proc. U. S. Nat. Mus., x, 1887, 637, 653 (Bexar Co., Texas).—SEEBORN, Geog. Distr. Charadriidae, 1887, pp. xxii, 327, part.—SCOTT, Auk, vi, 1889, 158 (Tarpon Springs and Punta Rassa, Florida, resident; breeding?); ix, 1892, 14 (Jamaica), 212 (Caloosahatchie River, Florida, breeding).—WARREN, Birds Penn., 1890, 95.—ATTWATER, Auk, ix, 1892, 232 (San Antonio, Texas, migrant).—DUTCHER, Auk, x, 1893, 272 (Rockaway Meadows and Foster's Meadows, Long Island, 25 to 50 years previously).—ELLIOT, N. Am. Shore Birds, 1895, 153, pl. 47.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 352, part (Patricio, Corpus Christi, and San Antonio, Texas; Iowa; Lyons Falls, New York, Jan. 10).—BUTLER, Auk, xiv, 1897, 199 (Dubois Co., Indiana, April 2, 1896; Liverpool, Indiana).—HOWE, Auk, xvi, 1899, 190 (Jamestown, Rhode Island, Sept. 9, 1897).—JONES (L.), Wilson Bull., no. 57, 1906, 114 (Cleveland, Ohio, Sept. 15, 1885).
- [*Numenius longirostris* GUNDLACH, Journ. für Orn., 1861, 340 (Cuba).—GRAY, Hand-list, iii, 1871, 42, no. 10247, part.—COUES, Key N. Am. Birds, 1872, 262, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146, part.—CORY, List Birds West Ind., revised ed., 1886, 27.—SHARPE, Hand-list, i, 1899, 158, part.
- Numenius (Numenius) longirostris* COUES, Proc. Ac. Nat. Sci., Phila., 1861, 235 (Labrador).
- Numenius melanopus* VIEILLLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 306, part (North America, breeding around Hudson Bay, etc.; based on *Numenius arquata* var. β Latham, *Scolopax arquata* var. β Gmelin; includes *Phæopus hudsonicus*).
- Numenius rufus* VIEILLLOT, Gal. Ois., ii, 1834, 118, part, pl. 245 (New York; Hudson Bay).

NUMENIUS AMERICANUS OCCIDENTALIS (Woodhouse).

LESSER LONG-BILLED CURLEW.

Exactly like *N. a. americanus* in coloration, but smaller, especially the bill.

Adult male.—Wing, 253.5–287 (265.6); tail, 96–123.7 (108.6); exposed culmen, 105.4–144.8 (121.1); tarsus, 69.8–81.5 (74.5); middle toe, 35–41.5 (38.1).^a

Adult female.—Wing, 251.5–274.6 (268.5); tail, 104–116 (110.2); exposed culmen, 118.1–170.7 (158.7); tarsus, 72.9–88.1 (82).^a

Northwestern United States and adjacent provinces of Canada, northward to Manitoba (Red River; Souris River), Saskatchewan (Crane Lake), Alberta (Jasper House), and eastern British Columbia, formerly (at least casually) to Vancouver Island; breeding southward to southern Oregon (Fort Klamath; Pendleton), Montana (Gallatin Co.; Darnells; mouth of Milk River), Wyoming (Newcastle) and South Dakota; migrating southward at least as far as southern California (Huntington Beach, Orange Co., Aug. 22), New Mexico (near Albuquerque), and Tamaulipas (Matamoros, Jan.).^b

Numenius longirostris (not *N. longirostra* Wilson) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 376 (Saskatchewan?; banks of Columbia River?).—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—CASSIN, Orn. U. S. Expl. Exped. (Wilkes), 1858, 315 (Oregon, etc.); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 743, part.—BAIRD, Cat. N. Am. Birds, 1859, no. 549, part.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 245, part (Fort Dalles, Oregon; Simcoe and Yakima Valleys, near Fort Steilacoom, and Shoalwater Bay, Washington).—BLAKISTON, Ibis, 1863, 134 (“fur-countries”).—FEILNER, An. Rep. Smithsonian. Inst. for 1864 (1865), 428 (Fort Crook, n. California).—BROWN, Ibis, 1868, 425 (Vancouver Island).—COVES, Check List, 1873, no. 441, part; 2nd ed., 1882, no. 643, part; Birds Northwest, 1874, 508, part; Am. Nat., viii, 1874, 601 (upper Missouri and Milk River, Montana; nesting habits); Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 645 (Pembina and Buford, North Dakota).—MERRIAM, N. Am. Fauna, no. 5, 1891, 92 (Blackfoot River, Idaho).—SEYON, Auk, iii, 1886, 152 (Red River and Souris River, Manitoba, rare summer resident).—MERRILL (J. C.), Auk, v, 1888, 145 (Fort Klamath, Oregon, breeding).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 352, part (Fort Crook, California; British Columbia; Powder River, Montana).

[*Numenius*] *longirostris* GRAY, Hand-list, iii, 1871, 42, no. 10247, part.—COVES, Key N. Am. Birds, 1872, 262, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146, part.—SHARPE, Hand-list, i, 1899, 158, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 69 (near Jasper House, Alberta).

N[umenius] longirostris GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 223.

Numenius americanus (not of Bechstein) AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 368, part; Check List, 3rd ed., 1910, 124,

^a Measurement sheets having been mislaid, the number of specimens measured can not be stated. The series was, however, larger than that of *N. a. americanus*.

^b In all probability several of the Mexican records of “*Numenius longirostris*” pertain to this form.

- part.—SAUNDERS, Auk, xxviii, 1911, 35 (Gallatin Co., Montana, breeding).—
 BROOKS, Auk, xxxiv, 1917, 37 (Chilliwack, Brit. Columbia, April).—
 DICE, Auk, xxxv, 1918, 43 (near Prescott, s. e. Washington, breeding).
Numenius occidentalis WOODHOUSE, Proc. Ac. Nat. Sci. Phila., vi, 1852, 194
 (Rio Grande, near Albuquerque, New Mexico, Aug. 20, 1851; type formerly
 in U. S. Nat. Mus.; destroyed in 1888).
Numenius occidentalis WOODHOUSE, in Sitgreaves' Rep. Expl. Zúñi and Col.
 R., 1853, 98, pl. 6 (descr.).
Numenius americanus parvus BISHOP, Auk, xxvii, Jan., 1910, 59 (Crane Lake,
 Saskatchewan; coll. L. B. Bishop).—PHILLIPS, Auk, xxviii, 1911, 75 (Mata-
 moros, Tamaulipas, Jan.).

The following references may pertain to either *N. a. americanus* or
N. a. occidentalis, examination of specimens being necessary to
determine their proper allocation:

- Numenius longirostris* LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 3; Journ.
für Orn., 1863, 59 (reprint).—VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 28.—
HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico); xi, 1859, 108
(New Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1864, 178 (City of Mexico).—
SALVIN, Ibis, 1865, 190 (Guatemala); 1866, 197 (Chiapam and Dueñas, Guate-
mala).—COUES, Ibis, 1865, 165 (Arizona); 1866, 269 (s. California); Proc.
Ac. Nat. Sci. Phila., xviii, 1866, 98 (Fort Whipple, Arizona).—COOPER,
Am. Nat., iii, 1869, 298 (Great Falls, Montana).—FINSCH, Abh. nat. Ver.
Bremen, i, 1870, 363 (Mazatlan, Sinaloa).—SCLATER and SALVIN, Proc. Zool.
Soc. Lond., 1873, 456 (Mexico; Guatemala).—LAWRENCE, Mem. Bost. Soc.
N. H., ii, 1874, 309 (Mazatlan, Sinaloa); Bull. U. S. Nat. Mus., no. 4, 1876,
48 (Juchitan, Oaxaca, Feb.).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix,
1886, 179 (Puebla).—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 352, part
(Chihuahua, Jan.; San Blas, Tepic, April 28; City of Mexico; Zacatecas,
Aug.; Cozumel Island; Dueñas, Guatemala; San Diego, California), 753 (Can-
ada; California).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 364
(Matamoros, Tamaulipas; Rio Guerrero, Chihuahua; San Blas, Tepic; Zaca-
tecas; Mazatlan, Sinaloa; Guanajuato; Guadalajara, Jalisco; Valley of Mexico;
Juchitan, Oaxaca; Laguna de San Baltazan, Puebla; Cozumel Island; Dueñas
and Chiapam, Guatemala).—MILLER (W. DeW.), Bull. Am. Mus. N. H.,
xxii, 1906, 162 (Rancho Santuario, n. w. Durango, Feb.).
N[umenius] longirostris MAXIMILIAN, Journ. für Orn., 1859, 88 (descr., etc.).

Genus PHÆOPUS Cuvier.

- Curlirius* RAFINESQUE, Anal. de la Nature, 1815, 17 (*nomen nudum*).
Phæopus CUVIER, Règne Anim., i, 1817 (1816), 485. (Type, by tautonymy, *Scolopax phæopus* Linnaeus.)

Large Scolopacidae (wing 211–267 mm.) resembling *Numenius*,
but with relatively shorter and stouter and more abruptly decurved
bill, the exposed culmen shorter than tarsus and middle toe; tarsus
less than twice as long as middle toe without claw, and tail longer
than tarsus with middle toe.

Bill shorter than tarsus and middle toe, straight or nearly so for
basal half, rather abruptly decurved terminally, slightly compressed,
the tip very slightly expanded; nostrils sub-basal, longitudinally
linear (slit-like), pervious: nasal groove distinct for more than basal

half (sometimes two-thirds or more) of maxilla; loreal and malar antia on same vertical line or the former slightly posterior to the latter, or (in *P. tahitiensis*) the loreal antia decidedly anterior to the malar antia; mental antia extending nearly if not quite to anterior end of nostrils; frontal antia forming a deeply concave line across base of culmen. Wing ample, pointed, the outermost primary longest and exceeding distal secondaries by decidedly more than half the length of wing; tertials elongated, but the longest falling short of tips of three longest primaries. Tail nearly two-fifths as long as wing (sometimes longer, sometimes shorter, than exposed culmen), slightly rounded, sometimes with middle pair of rectrices slightly shorter than next pair; rectrices, 12. Tarsus decidedly less than twice as long as middle toe without claw, transversely scutellate anteriorly, covered with hexagonal scales posteriorly; bare portion of tibia shorter than middle toe without claw, covered all around with hexagonal scales; lateral toes decidedly shorter than middle toe, equal, or the outer toe slightly longer than the inner; hallux well developed but slender, elevated, decidedly shorter than basal phalanx of middle toe; interdigital spaces webbed basally, the web between middle and outer toes extending for length of basal phalanx of the latter, that between middle and inner toes slightly smaller; all the anterior toes margined laterally by a distinct tumid membrane.

Coloration.—Pileum deep grayish brown or sooty, divided longitudinally by a median line of pale buffy and bordered along each side by broad superciliary stripe of the same narrowly streaked with dusky; a grayish brown or dusky loreal and postocular stripe; general color of upper parts grayish brown, more or less varied with paler edgings or spotting; sides of head and neck, foreneck, and chest pale brownish buffy, streaked with grayish brown or dusky, the chin, upper throat, abdomen, etc., immaculate buff or buffy white; one species with rump white.

Range.—Northern parts of northern hemisphere in summer, nearly cosmopolitan during migration. (Three species.)

KEY TO THE SPECIES AND SUBSPECIES OF *PHÆOPUS*.

- a. Feathers of thighs without bristle-like tips; tail grayish brown, narrowly and sometimes indistinctly barred with darker.
- b. Rump, axillars, and under wing-coverts white, or prevaillingly white. (*Phæopus phæopus*.)
- c. Rump immaculate white or with only a few (mostly concealed) darker markings; axillars more narrowly and more sparsely barred; size averaging larger (wing averaging 237.7 in male, 240.5 in female; exposed culmen 81.2 in male, 82.8 in female; tarsus 56.7 in male, 59.6 in female). (Northern Europe in summer; south to Africa, India, etc., in winter; occasional in Greenland; accidental in Nova Scotia.).....*Phæopus phæopus phæopus* (p. 397).
- cc. Rump always more or less (sometimes heavily) spotted; axillars more heavily and extensively barred; size averaging smaller (wing averaging 227 in male,

237.7 in female; exposed culmen 73 in male, 78.8 in female; tarsus 55.5 in male, 56.2 in female). (Eastern Asia, south to Malay Archipelago and Australia in winter.).....*Phæopus phæopus variegatus* (extralimital).^a

bb. Rump dark grayish brown, the feathers tipped with light buffy brown; axillars and under wing-coverts vinaceous-buff, the former narrowly barred, the latter irregularly marked, with dusky. (Northern North America, south to southern South America in migration.).....*Phæopus hudsonicus* (p. 402).

aa. Feathers of thighs with long, bristle-like tips; tail light pinkish cinnamon (sometimes more or less shaded with grayish brown) broadly and sharply barred, or banded, with dark grayish brown. (Western Alaska and islands of Pacific Ocean, from Hawaii to New Caledonia; breeding range unknown.)

Phæopus tahitiensis (p. 407).

PHÆOPUS PHÆOPUS PHÆOPUS (Linnaeus).

WHIMBREL.

Adults in summer (sexes alike).—Pileum uniform dark grayish brown (clove brown or fuscous) divided longitudinally by a narrow median stripe of very pale buffy or dull buffy whitish, streaked more or less with dark grayish brown and margined laterally by a broad superciliary stripe of very pale buffy or dull buffy whitish, narrowly streaked dark grayish brown; rest of sides of head, together with neck (all round) very pale dull buffy or dull buffy whitish streaked with grayish brown, the streaks broader on hindneck, much narrower and more sharply defined on malar, suborbital, and auricular regions; a more or less distinct broad stripe of deep grayish brown across lores (from rictus to eye) and a narrower postocular streak; general color of upper parts grayish brown, the interscapulars rather broadly (but not sharply) margined with paler and slightly buffy grayish brown, the scapulars similar but some of them (especially the longer ones) with indistinct or not sharply defined paler marginal spots; lesser wing-coverts narrowly margined with very pale grayish buffy or dull buffy whitish; middle and greater coverts spotted (marginally) and more broadly margined with dull buffy whitish, the secondaries tipped

^a *Tantalus variegatus* Scopoli, Del. Flor. et Faun. Insubr., ii, 1786, 92 (Luzon Island, Philippines; based on *Le Courlis tacheté de l'Isle de Luçon* Sonnini, Voy. N. Guin., 1776, 85, pl. 48).—*Numenius variegatus* Salvadori, Ann. Mus. Genov., xviii, 1882, 330; Orn. Papuasias, etc., iii, 1882, 332; Mathews, Birds Australia, iii, 1913, pl. [145] facing p. 176.—*Numenius phæopus variegatus* Stejneger, Bull. U. S. Nat. Mus. no. 29, 1885, 138 (Bering Island, Kamchatka); Seebohm, Geog. Distr. Charadriidæ, 1880, 330; Birds Japan. Empire, 1890, 317.—[*Numenius phæopus*.] Subsp. *α* *Numenius variegatus* Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 361.—*Phæopus phæopus variegatus* Mathews, Birds Australia, iii, pt. 2, May 2, 1913, 176.—[*Scolopax*] *luzoniensis* Gmelin, Syst. Nat., i, pt. ii, 1789, 656 (Luzon Island, Philippines; based on *Luzonian Curlew* Latham, Gen. Synop. Birds, iii, pt. 1, 1785, 122).—[*Numenius*] *luzoniensis* Latham, Index Zool., ii, 1790, 711.—*Numenius atricapillus* Vieillot, Nouv. Dict. d'Hist. Nat. viii, 1817, 303 (Luzon).—*Numenius uropygialis* Gould, Proc. Zool. Soc. Lond., 1840, 175 (s. coast Australia); Birds Australia, vi, 1848, pl. 43 and text; Dresser, Birds Europe, viii, 1873, 245; Ramsay, Tab. List Birds Australia, 1888, 20.

and transversely spotted, or broadly barred, with the same, the paler spots shaded, more or less, with light grayish brown; tertials mostly nearly uniform grayish brown, usually with indistinct broad bars of darker; primary coverts and primaries dusky, margined terminally with white (except longer primaries), the four innermost primaries spotted along edge of outer web with dull brownish white; entire lower back and rump white, the feathers with median streaks of grayish brown, these mostly concealed, but on lower rump exposed and broader (more or less guttate or cuneate); anterior median upper tail-coverts white, narrowly streaked, medially, with dusky, the lateral and terminal coverts pale grayish brown spotted with paler and more buffy grayish brown and with dusky shaft-streaks; tail light grayish brown (grayish drab or light hair brown), barred (sometimes indistinctly) with darker, the lateral rectrices narrowly tipped with dull white, the outermost one with ground color white, except distally, and distinctly barred even where bars on middle rectrices are indistinct; under parts dull white, the chin and upper throat, abdomen, flanks, anal region, and median shorter under tail-coverts immaculate, the lower throat, foreneck, chest, and upper breast very pale dull grayish buffy streaked with grayish brown, the streaks narrower and more sharply defined on upper breast, the sides streaked and irregularly spotted with the same (on a white ground); longer and lateral under tail-coverts narrowly streaked and spotted with grayish brown or dusky; axillars pure white, obliquely barred with grayish brown; under wing-coverts white, partly immaculate but partly spotted (irregularly) with dusky, the under primary coverts irregularly barred or spotted with pale gray; inner webs of primaries brownish gray with cuneate indentations of whitish, these extending halfway or more toward shaft, but sometimes this dull white forming a continuous but irregular broad edging; bill dusky, the mandible becoming pale brownish or light horn color basally; iris dark brown; legs and feet dusky grayish (light grayish blue or bluish gray in life).

Winter plumage.—"Similar to the summer plumage, but with the lower back perfectly white,^a the black streaks being concealed, the under parts less distinctly streaked, and the flanks less distinctly barred."^b

Young.—"May always be distinguished by the more mottled appearance of the upper surface, most of the feathers being spotted on both webs with whitish or pale rufescent buff; the lower back and rump are plentifully mottled with spots of dusky brown, and the innermost secondaries [tertials] very distinctly notched with rufescent buff; the streaks on the throat and breast and the bars on the flanks

^a Some specimens in summer plumage also show an immaculate (superficially) white lower back and rump.—R. R.

^b Sharpe, Cat. Birds Brit. Mus., xxiv, 358.

almost as plentifully developed as in the adults; the bars on the axillaries are often incomplete, and are, in rare instances, entirely absent."^a

Downy young.—General color pale grayish buff (nearly tilluel buff), slightly deeper on head and under parts; a median stripe on forehead (not extending to bill), two broader stripes on posterior portion of crown and occiput, a postocular streak (broader posteriorly), an irregular stripe down median portion of nape and hindneck, and irregular stripes and spots on back, rump, and wings, dusky grayish brown or fuscous.

Adult male.—Wing, 228–247 (237.7); tail, 96–102 (98.7); exposed culmen, 75–87.5 (81.2); tarsus, 56–58 (56.7); middle toe, 33–36 (34.5).^b

Adult female.—Wing, 233–255 (240.5); tail, 92–104 (99.3); exposed culmen, 77–90 (82.8); tarsus, 55–63.5 (59.6); middle toe, 33.5–36.5 (34.9).^c

Breeding in the arctic and subarctic districts of Europe and western Asia, from Iceland, Faro, Shetland, and Orkney islands and northern portions of Scandinavian peninsula to the valley of the Petchora River, northward to Spitzbergen, Jan Mayen Land, etc.; migrating southward to the Azores and Canary islands, Madeira, Cape Verde Islands, Cape of Good Hope, Madagascar, Seychelles, Aden, India, Ceylon, etc.; frequent in southern Greenland, and accidental on Sable Island south of Nova Scotia (1 spec., May 25, 1906).

[*Scolopax phæopus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 146 (Sweden); ed. 12, i, 1766, 243.—GMELIN, Syst. Nat., i, pt. ii, 1789, 657.—TURTON, Syst. Nat., i, 1806, 394, part.

Scolopax phæopus BODDAERT, Tabl. Pl. Enl., 1783, 51 (Pl. Enl., pl. 842).—LESSON, Traité d'Orn., 1831, 566.

[*Numenius phæopus* LATHAM, Synopsis Birds, Suppl., i, 1787, 291; Index Orn., ii, 1790, 711.—GRAY, Hand-list, iii, 1871, 42, no. 10249.—SHARPE, Hand-list, i, 1899, 158.—SCLATER, Proc. Zool. Soc. Lond., 1897, 189 (Mozambique).—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 69.

Numenius phæopus TEMMINCK, Man. d'Orn., ii, 1820, 604.—ROUX, Orn. Prov., 1825, pl. 307.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 169, part.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 444; Geog. and Comp. List, 1838, 49.—MÉNÉTRIÉS, Cat. Rais. Caucas., 1832, 50 (Caucasus).—GOULD, Birds Europe, iv, 1837, pl. 303 and text; Birds Great Brit., iv, 1871, pl. 49 and text.—WEBB and BERTHELOT, Orn. Canar., 1840, 37.—NORDMANN, in Démid., Voy. Russ. Mérid., iii, 1840, 255.—SELYS-LONGCHAMPS, Faune Belge, 1842, 131.—YARRELL,

^a Sharp, Cat. Birds Brit. Mus., xxiv. 358.

^b Three specimens.

^c Eight specimens.

Extreme and averages of a series of *P. p. variegatus* are as follows:

Adult male (5 specimens).—Wing, 211–239 (227); tail, 88–100 (92.4); exposed culmen, 66–79.5 (73); tarsus, 52–59 (55.5); middle toe, 32–35 (33.7).

Adult female (3 specimens).—Wing, 232–242 (237.7); tail, 87–98.5 (93); exposed culmen, 74.5–87 (78.8); tarsus, 55–57 (56.2); middle toe, 34–35 (34.7).

Hist. Brit. Birds, ii, 1843, 516; Proc. Zool. Soc. Lond., 1866, 425 (Madagascar).—GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 94; List Brit. Birds, 1863, 154.—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 268 (Calcutta); Ibis, 1867, 168 (Calcutta).—THOMPSON, Birds Ireland, ii, 1850, 196.—HARCOURT, Proc. Zool. Soc. Lond., 1851, 146 (Madeira).—MACGILLIVRAY, Brit. Birds, iv, 1852, 253.—CASSIN, Proc. Ac. Nat. Sci. Phila., ix, 1857, 40 (Muni River, w. Africa); xi, 1859, 174 (Camma River, w. Africa).—POWYS, Ibis, 1860, 344 (Corfu and Epirus, spring and autumn).—REINHARDT, Ibis, 1861, 10 (Greenland, numerous occurrences; crit.).—GODMAN (F. and P.), Ibis, 1861, 87 (Bodo, Norway, breeding); 1866, 101, 107 (Azores); Azores, 1870, 34, 41.—IRBY, Ibis, 1861, 240 (Oudh, India); Orn. Straits Gibralt., 1875, 178; 2nd ed., 1895, 291; Key List Brit. Birds., 2nd ed., 1892, 54.—NEWTON (E.), Ibis, 1861, 276 (Mauritius); 1863, 457 (Madagascar); 1867, 359 (Seychelles).—NEWTON (A.), in Baring-Gould's Iceland, 1863, 413 (April to Sept.).—ROCK and NEWTON (E.), Ibis, 1863, 171 (Madagascar).—JERDON, Birds India, iii, 1864, 684.—WRIGHT, Ibis, 1864, 145 (Malta).—GIGLIOLI, Ibis, 1865, 60 (Pisa, Italy); Avif. Ital., 1886, 409; Avif. Ital., 1st Resoc., 1889, 624; 2nd Resoc., 1890, 656; 3rd Resoc., 1891, 514.—GURNEY, Ibis, 1865, 272 (Natal); 1882, 75 (Mombasa); in Andersson's Birds Damara Land., 1872, 300.—MORE, Ibis, 1865, 434 (British Islands).—BAIRD, Ibis, 1867, 282 (Iceland; Greenland).—HARTLAUB, Proc. Zool. Soc. Lond., 1867, 827 (Zanzibar).—DEGLAND and GERBE, Ois. Eur., ii, 1867, 162.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 333.—LAYARD, Birds South Africa, 1867, 322 (Walfisch Bay; Cape Town).—SCHLEGEL and POLLEN, Faune Madagasc., Ois., 1868, 183.—TRISTRAM, Ibis, 1868, 327 (Palestine); Fauna and Flora Palestine, 1884, 134 (winter visitant).—SMITH, Ibis, 1868, 454 (Portugal).—DRAKE, Ibis, 1869, 154 (Morocco).—BROWN, Proc. Bost. Soc. N. H., xii, 1869, 203 (Madeira).—STEVENSON, Birds Norfolk, ii, 1870, 199.—ELWES and BUCKLEY, Ibis, 1870, 331 (Turkey).—SALVADORI, Faun. Ital., Ucc., 1871, 225; Elenco Ucc. Ital., 1886, 230.—GRAY (R.), Birds West Scotl., 1871, 288.—SAUNDERS, Ibis, 1871, 389 (a Spain); ed. Yarrell's Brit. Birds, iii, 1883, 507; Proc. Zool. Soc. Lond., 1886, 336 (Diego Garcia, Chagos group); Man. Brit. Birds, 1889, 613.—HARTING, Handb. Brit. Birds, 1872, 53.—SUNDEVALL, Svensk. Fogl., 1856-72, pl. 38, fig. 3.—SHARPE, Ibis, 1872, 74 (Nagua River, Gold Coast); 1886, 492 (Fao, July to March); Rep. Trans. Venus Exped., 1878, 462 (Rodriguez); ed. Layard's Birds South Africa, 1884, 693; Proc. Zool. Soc. Lond., 1886, 336 (Diego Garcia); Cat. Birds Brit. Mus., xxiv, 1896, 355, 753.—TAYLOR, Ibis, 1872, 232 (Constantinople).—SHELLEY and BUCKLEY, Ibis, 1872, 290 (Gold Coast).—SHELLEY, Birds Egypt, 1872, 244; Proc. Zool. Soc. Lond., 1879, 679 (Grand Comoro Island); Ibis, 1888, 306 (Lamu).—FEILDEN, Zoologist, 1872, 3248 (Farø Islands, April to Sept.).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 474 (Ceylon).—PALMÉN, Findlands Foglar, 1873, 122.—WALDEN, Ibis, 1873, 317 (Andaman Islands).—BROOKE, Ibis, 1873, 340 (Sardinia).—LLOYD, Ibis, 1873, 417 (Kattiawar, India).—DRESSER, Birds Europe, vii, 1873, 227, pl. 576.—USSHER, Ibis, 1874, 74 (Gold Coast).—HANCOCK, Birds Northumb. and Durham, 1874, 101.—DUFFORD, Ibis, 1874, 399 (North Frisian Islands).—DANFORTH and HARVEY-BROWN, Ibis, 1875, 424 (Transylvania).—FALLON, Ois. Belg., 1875, 167.—BUTLER, Stray Feath., iv, 1876, 16 (Sind); v, 1877, 233 (Deesa); vii, 1878, 187 (Karachi Harbor); ix, 1880, 429 (Deccan and s. Mahratta country); Cat. Birds Sind, etc., 1879, 62; Cat. Birds S. Bombay Pres., 1880, 76 (winter).—HUME, Stray Feath., iv, 1876, 464 (Laccadives); v, 1877, 329 (Sind.); vii, 1878, 487 (Calcutta).—AYRES, Ibis, 1877, 350; 1878, 301 (Transvaal).—OUSTALET, Bull. Soc. Philomath., 1878, 185 (Seychelles).—BOGDANOW,

- Birds Caucas., 1879, 156.—LEGGE, Birds Ceylon, 1880, 910.—VIDAL, Stray Feath., ix, 1880, 85 (s. Konkan).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. [561]); xviii, 1896, 515 (Ile Alphonse, etc., Amirante group), 518 (Flat Island), 519 (Coëtivy), 520 (Assumption), 524 (Ile Glorieuse), 528 (Aldabra); Nom. N. Am. Birds, 1881, no. [561].—REID, Stray Feath., x, 1881, 70 (Lucknow, India).—BOCAGE, Orn. Angola, 1881, 462.—COLLETT, Norges Fugle, 1881, 101.—SEEBOHM, Ibis, 1882, 224 (Astrakhan), 382 (Archangel, Russia); 1883, 29 (Caucasus); 1892, 22 (Helgoland); Hist. Brit. Birds, iii, 1884, 100; Geog. Distr. Charadriidae, 1887, pp. xxii, 328, figs.—MILNE-EDWARDS and GRANDIDIER, Hist. Nat. Madagasc., Ois., 1882, 621.—COUES, Check List, 2nd ed., 1882, no. 644.—COCKS, Zoologist, 1882, 408 (Spitzbergen, July).—OATES, Handb. Birds Burma, ii, 1883, 411, part.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 179.—MURRAY, Vertebr. Fauna Sind, 1884, 247.—DIXON, Ibis, 1885, 85 (St. Kilda).—YERBURY, Ibis, 1886, 21 (Aden).—AMERICAN ORNITHOLOGISTS' UNION, Check-list, 1886, and 2nd ed., 1895, no. 267; 3rd ed., 1910, p. 125.—HARVEY-BROWN and BUCKLEY, Vertebr. Fauna Sutherl., Caithn., and Cromarty, 1887, 225; Vertebr. Fauna Outer Hebrides, 1888, 137; Vertebr. Fauna Argyll and Inner Hebrides, 1892, 183.—CHAPMAN, Ibis, 1888, 445 (Spain, Sept.); 1894, 347 (w. Jutland).—MILNE-EDWARDS and OUSTALET, Nouv. Archives Mus., (2), x, Bull., 1888, 286 (Comoro Islands).—CHAMBERLAIN, Auk, vi, 1889, 217 (Arsuk, s. Greenland, May 25, 1887).—OGILVIE-GRANT, Ibis, 1890, 442 (Madeira); 1896, 47 (Great Picton, Salvage Islands).—GRAHAM, Birds Iona and Mull, 1890, 237.—CLARKE (W. E.), Zoologist, 1890 (Jan Mayen Land).—HAGERUP, Birds Greenland, 1891, 20.—SIBREE, Ibis, 1892, 115 (Madagascar).—RENDALL, Ibis, 1892, 229 (Gambia).—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 46.—BARNES, Ibis, 1893, 171, 181 (Aden).—MEADE-WALDO, Ibis., 1893, 205 (Canary Islands).—PEARSON and BIDWELL, Ibis, 1894, 235 (n. Norway, breeding).—ELLIOT, N. Am. Shore Birds, 1895, 162, pl. 51.—POYNTING, Eggs Brit. Birds, pt. ii, 1895, 249, pl. 53.—JESSE, Ibis, 1903, 163 (Chota Peninsula and Lucknow, India).—WITHERBY, Ibis, 1903, 565 (Fars, s. w. Persia).—BREWSTER, Auk, xxvi, 1909, 190 (south of Sable Island, Nova Scotia, 1 spec., May 23, 1906).
- N[umenius] phaeopus* HOBBSÖLL, Naturhist. Tidssk., iv, 1843, 407 (Greenland).—COUES, Key N. Am. Birds, 2d ed., 1884, 645.—RIDGWAY, Man. N. Am. Birds, 1887, 171.
- Numenius phaeopus* WERNER, Atlas, Gallatores, 1827, pl. 6.—BREHM, Vög. Deutschl., 1831, 611.—NAUMANN, Vög. Deutschl., 1836, 506, pl. 217; Naumannia, i, 1850, 11 (Anhalt, Germany).—SCHLEGEL, Rev. Crit., 1844, xcv; Vog. Nederl., 1854, pl. 248; Dier. Nederl. Vogels, 1861, pl. 22, figs. 9, 9a; Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 93, part.—MÜHLE, Orn. Griechenl., 1844, 10.—HOLM, Naturhist. Tidssk., 2d ser., ii, 1848, 485 (Faro Islands).—REICHENBACH, Gallatores, 1850, pl. 78, figs. 540, 541.—KJAERBÖLLING, Naumannia, i, 1850, 48 (Denmark); Danm. Fugle, 1852, pl. 33a, fig. 5.—LILLJEBORG, Naumannia, ii, pt. ii, 1852, 109 (n. Russia), 114 (Tromsø, Norway).—TOBIAS, Journ. für Orn., 1853, 215 (Oberlausitz, Germany).—PÄSSLER, Journ. für Orn., 1853, 242 (Lapland), 312 (Lapland).—FRITZSCH, Journ. für Orn., 1853, 370 (Bohemia); 1871, 390 (Bohemia); Vög. Eur., 1870, pl. 40, fig. 2.—HARTLAUB, Journ. für Orn., 1854, 159 (Ceylon), 296 (w. Africa); 1855, 301 (Gold Coast); Orn. W. Afrika, 1857, 232 (Gambia; Ashantee); Vog. Madagasc., 1877, 322.—REINHARDT, Journ. für Orn., 1854, 440 (Greenland).—BOLLE, Journ. für Orn., 1855, 176 (Canary Islands); 1857, 338 (Canary Islands).—JAECKEL, Journ. für Orn., 1855, 402 (Bayern).—MÜLLER, Journ. für Orn., 1856, 230
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- (Provence).—HEUGLIN, Syst. Ueb., 1856, 62 (banks of Nile in winter); Orn. N.-O.-Afrika, ii, pt. 1, 1873, 1150 (lower Egypt; Khartoum; Abyssinia; coast of Arabia).—HOMER, Journ. für Orn., 1859, 369 (in captivity).—HEINE, Journ. für Orn., 1860, 201 (Camma, Africa).—LINDERMAYER, Vög. Griechenl., 1860, 146.—BLASIUS (R.), Journ. für Orn., 1863, Beilage, 68 (Braunschweig).—ALTUM, Journ. für Orn., 1863, 120 (Münsterland).—RADDE, Reis. Sibir., 1863, 340, part; Orn. Caucas., 1884, 45 (Tiflis, breeding at 6,300 ft.), 435 (Lenkoran).—NORDMANN, Journ. für Orn., 1864, 375 (Finland; Lapland).—SALVADORI, Journ. für Orn., 1865, 315 (Sardinia).—HOLTZ, Journ. für Orn., 1868, 160 (Gottsche-Sando, Norway).—FINSCH, Journ. für Orn., 1869, 336 (w. Africa).—DOERN, Journ. für Orn., 1871, 9 (Cape de Verd Islands).—BÜTTIKOFER, Notes Leyden Mus., vii, 1885, 243 (Liberia); x, 1888, 102 (Junk River, Liberia); xi, 1889, 137 (Liberia).—HARTERT, Journ. für Orn., 1886, 608 (w. Africa); Novit. Zool., viii, 1901, 396 (Canary Islands); x, 1903, 297 (Rio de Oro, w. Africa).—KOENIG, Journ. für Orn., 1890, 454 (Canary Islands); 1893, 89 (Tunis).—SCHALOW, Journ. für Orn., 1899, 386 (Spitzbergen).—GRANT, Novit. Zool., vii, 1900, 268 (s. Arabia).—REICHENOW, Journ. für Orn., 1902, 12 (Togo Land, w. Africa); Deutsch. Tiefsee-Exped., 7 Bd., 5 Lief., 1904, 353 (Chagos Islands).
- Numenius phaeopus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxviii, 217.
- Numenius phaeopus* DROSTE, Journ. für Orn., 1869, 343 (Faro Islands).
- Numenius phaeopus* TEMMINCK, Cat. Syst., 1807, 170.—VIEILLLOT, Nouv. D'ct. d'Hist. Nat., viii, 1817, 363.—YARRELL, Hist. Brit. Birds, ed. 2, ii, 1856, 583; ed. 3, ii, 1856, 616.—SEEBORN and BROWN, Ibis, 1876, 311 (lower Petchora R., Russia).
- Numenius phaeopus* HARTERT and GRANT, Novit. Zool., xii, 1905, 104 (San Miguel, Azores).
- [*Phaeopus*] *phaeopus* CUVIER, Règne Anim., i, 1817, 485.
- [*Scolopax*] *horealis* (not of FOSTER, 1772) GÜRLIN, Syst. Nat., i, pt. ii, 1789, 654.
- Numenius minor* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 32 (Devonshire, England; type now in coll. Brit. Mus.).
- [*Phaeopus*] *minor* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 326.
- [*Phaeopus*] *vulgaris* FLEMING, Philos. Zool., ii, 1822, 254.
- (?) *Phaeopus arquatus* (not *Scolopax arquata* Linnaeus) STEPHENS, Shaw's Gen. Zool., xii, pt. i, 1824, 36, pl. 5.
- Numenius islandicus* BREHM, Vög. Deutschl., 1831, 610 (Iceland; Germany).
- Numenius haeritatus* HARTLAUB, Orn. West-Afrika, 1857, 233 (island of St. Thomas).
- [*Numenius*] *haeritatus* GRAY, Hand-list, iii, 1871, 42, no. 10251 (*nomen nudum*).
- [*Numenius*] *melanorhynchus* BONAPARTE, Compt. Rend., xlii, 1856, 597 (*nomen nudum*; Greenland).—GRAY, Hand-list, iii, 1871, 42, no. 10251.
- Numenius melanorhynchus* BONAPARTE, Compt. Rend., xliii, 1856, 1021.

PHÆOPUS HUDSONICUS (Latham).

HUDSONIAN CURLEW.

Similar to *P. phaeopus*, but lower back and rump concolor with interscapular region, under parts decidedly more buffy, and ground color of axillars and under wing-coverts vinaceous-buff instead of white.

Adults (sexes alike).—Pileum uniform dark grayish brown (clove brown or fuscous) divided longitudinally by a narrow stripe (more or

less broken by dusky streaks) of pale dull buffy and bordered laterally by a broad superciliary stripe of pale dull buffy, narrowly streaked with dusky; a broad dusky loreal stripe, extending from above rictus to anterior angle of eye, and a less distinct postocular streak of dusky; nape pale dull buffy passing into light grayish brown on lower hind-neck, streaked with dusky, the streaks broader and less dark toward back; scapulars, interscapulars, lower back, rump, and upper tail-coverts deep grayish brown, the feathers tipped (at least laterally) and spotted along edges (not sharply) with paler grayish brown and dull grayish buffy, the latter more evident on upper tail-coverts and lower rump, where sometimes forming more or less distinct bars; wing-coverts and secondaries similar to scapulars and interscapulars but (except anterior lesser coverts) paler grayish brown with distinct shaft-streaks of dusky and, where unworn, more distinctly margined terminally with pale grayish buffy; primary coverts and primaries dusky, the four innermost primaries spotted on outer webs (nearly if not quite to shafts) with pale grayish buffy (this sometimes mottled with grayish brown); shaft of outermost primary white, that of the next nearly white, the others light grayish brown; tail grayish brown (light hair brown or grayish drab) barred with dusky (the dusky bars considerably narrower than the grayish brown interspaces), the rectrices narrowly and indistinctly margined at tips with pale grayish buffy or dull buffy whitish; chin and upper throat (sometimes whole throat) immaculate dull white or buffy white; rest of under parts, together with sides of head (beneath eyes) and sides of neck, pale dull buff, the lower breast, abdomen, anal region, and antero-median under tail-coverts immaculate, the sides of head and neck, foreneck, chest, and upper breast slightly tinged with brownish and streaked with deep grayish brown, the sides and outer flanks strongly tinged or suffused with pale cinnamon or vinaceous-buff and barred or transversely spotted with grayish brown, the lateral and posterior under tail-coverts similarly but less heavily and more irregularly marked; axillars vinaceous-buff, obliquely barred (rather broadly) with grayish brown; under wing-coverts vinaceous-buff with irregular V-shaped spots or bars of grayish brown; inner webs of primaries grayish brown, deeply serrated or serrately barred with light vinaceous-buff; bill blackish, the basal portion of mandible pale brownish (more or less flesh colored or lilaceous in life); iris dark brown; legs and feet dusky (grayish in life).

Adult male.—Wing, 231–257 (239.1); tail, 88–101 (92.9); exposed culmen, 77–93.5 (83.1); tarsus, 52–61 (55.7); middle toe, 33–36.5 (35).^a

^a Thirteen specimens.

Adult female.—Wing, 240–267 (252.4); tail, 92–102 (97.1); exposed culmen, 84–95.5 (91.5); tarsus, 54–61 (57.9); middle toe, 34–38.5 (35.9).^a

Breeding along Arctic coast of North America, from mouth of Yukon River, Alaska, to Franklin Bay, etc., Mackenzie; migrating southward, chiefly along Atlantic and Pacific coasts of North America, through West Indies, Mexico, Central America and greater part of South America to Galápagos archipelago (Albemarle, Charles, Chatham, Hood, Indefatigable, James, and Narborough islands), southern Chile (Province of Santiago; Viña del Mar, near Valparaíso, and Aranca, Tarapacá; island of Chiloe; Talcahuano), and Brazil (Pará; Cajutuba; coast of Piauí); casual or occasional on Pribilof Islands, Bermudas (August) and in southern Greenland (Godthaab; Julianshaab; Jacobshavn; Fiskenaeset); accidental in Iceland, England, and Spain.

[*Scolopax borealis* (not of Forster, 1772) Gmelin, Syst. Nat., i, pt. ii, 1789, 654, excl. synonymy, part.

Scolopax borealis WILSON, Am. Orn., vii, 1813, 22, pl. 56, fig. 1.

Numenius borealis (not of Latham, 1790) ORD, ed. Wilson's Am. Orn., vii, 1824, p. —.—BREWER, ed. Wilson's Am. Orn., 1840, 473, part (excl. synonymy, etc.).

[*Numenius hudsonicus* LATHAM, Index Orn., ii, 1790, 712 (Hudson Bay; based on *Estimauz Curlew* Pennant, Arctic Zool., ii, no. 364, pl. 19; *Hudsonian Curlew* Latham, Synopsis Birds, Suppl., i, 1787, 243).—REINHARDT, Journ. für Orn., 1854, 440 (Greenland).—GRAY, Hand-list, iii, 1871, 42, no. 10248.—COUES, Key N. Am. Birds, 1872, 262.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 27.—SHARPE, Hand-list, i, 1899, 158.—FORBES and ROBINSON, Bull. Liverp Mus., ii, no. 2, 1899, 69.

Numenius hudsonicus BONAPARTE, Obs. Nom. Wilson's Am. Orn., 1826 [242]; Ann. Lyc. N. Y., ii, 1826, 314; Geog. and Comp. List, 1838, 49.—SWAINSON

^a Eleven specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tar- sus.	Middle toe.
MALES.					
One adult male from Hudson Bay (Moose Factory, July).....	235	89	86	54	36
Five adult males from Atlantic coast United States (migrants).....	235	89.2	87.6	54	34.4
Three adult males from Alaska (breeding).....	244	94.3	74.3	55.8	34.3
One adult male from California (migrant).....	245	97	91	61	35.5
Two adult males from Lower California (La Paz), migrants.....	235	91	81.5	57	36
One adult male from Galapagos Islands (migrant).....	257	101	84	58	36.5
FEMALES.					
Five adult females from South Carolina (migrants).....	247.4	94.2	90.2	57	34.7
Two adult females from Barbuda, West Indies (migrants).....	246	100.2	95	57.7	36.2
One adult female from Alaska (breeding).....	260	98	85	58	35
One adult female from Washington (migrant).....	262	102	96.5	58.5	37
Two adult females from California (migrants).....	262.5	98.5	92.5	60.2	35.2

and RICHARDSON, *Fauna Bor.-Am.*, ii, 1831, 377.—LESSON, *Traité d'Orn.*, 1831, 565.—NUTTALL, *Man. Orn. U. S. and Can.*, Water Birds, 1834, 97.—AUDUBON, *Orn. Biog.*, iii, 1835, 283, pl. 237; v, 1839, 589; *Synopsis*, 1839, 254; *Birds Am.*, 8vo ed., vi, 1843, 42, pl. 356.—GOULD, in Darwin's *Zool. Voy. 'Beagle'*, iii, Birds, 1841, 129 (Chiloé Island, Chile).—FRASER, *Proc. Zool. Soc. Lond.*, 1843, 117 (Chile).—JARDINE, *Contr. Orn.*, 1849, 84 (Bermudas, autumn).—HURDIS, *Jardine's Contr. Orn.*, 1850, 11 (Bermudas, Aug.).—HENRY, *Proc. Ac. Nat. Sci. Phila.*, vii, 1855, 315 (New Mexico).—KENNICOTT, *Trans. Ills. Agric. Assoc.*, i, 1855, 588 (Illinois).—PUTNAM, *Proc. Essex Inst.*, i, 1856, 230 (Massachusetts).—CASSIN, in Baird, *Rep. Pacific R. R. Surv.*, ix, 1858, 744.—BAIRD, *Cat. N. Am. Birds*, 1859, no. 550.—MARTENS, *Journ. für Orn.*, 1859, 219 (Bermudas).—WILLIS, *An. Rep. Smithsonian Inst. for 1858 (1859)*, 285 (Nova Scotia).—BLAND, *An. Rep. Smithsonian Inst. for 1858 (1859)*, 288 (Bermudas).—TAYLOR, *Ibis*, 1860, 313 (Bay of Fonseca, Honduras).—REINHARDT, *Ibis*, 1861, 10 (Godthaab, Julianshaab, Fiskenaeset, and Jacobshavn, Greenland).—BOARDMAN, *Proc. Bost. Soc. N. H.*, ix, 1862, 129 (Calais, Maine).—VERRILL, *Proc. Essex Inst.*, iii, 1862, 158 (Oxford Co., Maine).—BLAKISTON, *Ibis*, 1863, 134 (Saskatchewan; Slave Lake).—LAWRENCE, *Ann. Lyc. N. Y.*, viii, 1864, 100 (Sombbrero); viii, 1866, 294 (vicinity New York City); *Mem. Bost. Soc. N. H.*, ii, 1874, 309 (Mazatlan, Sinaloa; Rio Zacatula, Colima); *Bull. U. S. Nat. Mus.*, no. 4, 1876, 48 (Ventosa Bay, Oaxaca, Dec.); *Proc. U. S. Nat. Mus.*, i, 1878, 233 (Antigua), 242 (Barbuda), 277 (Grenada).—SALVIN, *Ibis*, 1865, 190 (Guatemala); 1866, 197 (Chiapam, Guatemala); 1866, 180 (Brit. Guiana); *Trans. Zool. Soc. Lond.*, ix, 1876, 504 (Indefatigable Island, Galapagos); *Proc. Zool. Soc. Lond.*, 1883, 429 (Paracas Bay, Peru).—MCILWRAITH, *Proc. Essex Inst.*, v, 1866, 93 (Hamilton, Ontario).—DRESSER, *Ibis*, 1866, 40 (San Antonio, Texas, spring and autumn).—WEIZ, *Proc. Bost. Soc. N. H.*, x, 1866, 267 (n. e. Labrador).—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 163.—SCLATER, *Proc. Zool. Soc. Lond.*, 1867, 333 (Chile).—SCLATER and SALVIN, *Proc. Zool. Soc. Lond.*, 1868, 176 (Valley of Tambo, w. Peru); 1870, 323 (Indefatigable Island, Galapagos); 1873, 456 (Neotropical range).—COUES, *Proc. Bost. Soc. N. H.*, xii, 1868, 123 (South Carolina); *Proc. Essex Inst.*, v, 1868, 296 (New England); *Check List*, 1873, no. 442; 2nd ed., 1882, no. 645; Birds Northwest, 1874, 509.—BROWN, *Ibis*, 1868, 425 (Vancouver Island).—DALL and BANNISTER, *Proc. Ac. Nat. Sci. Phila.*, i, 1869, 293 (St. Michaels, Alaska).—FRANTZIUS, *Journ. für Orn.*, 1869, 377 (Costa Rica).—TURNBULL, *Birds E. Penn. and N. J.*, 1869, 41 (Phila. ed., 32).—FINSCH, *Abh. nat. Ver. Bremen*, ii, 1870, 363 (Mazatlan, Sinaloa).—NEWTON, *Proc. Zool. Soc. Lond.*, 1871, 57, pl. 4, fig. 3 (egg).—ALLEN, *Bull. Mus. Comp. Zool.*, ii, 1871, 365 (e. Florida); iii, 1872, 356 (Kansas); *Bull. Am. Mus. N. H.*, ii, 1889, 272 (s. e. Brazil).—LILFORD, *Ibis*, 1873, 98 (s. Spain, accidental).—BREWER, *Proc. Bost. Soc. N. H.*, xvii, 1875, 446 (New England, migratory).—REID, *Zoologist*, 1877, 478 (Bermudas, Aug.); *Bull. U. S. Nat. Mus.*, no. 25, 1884, 240 (Bermudas, frequent).—TACZANOWSKI, *Proc. Zool. Soc. Lond.*, 1877, 330 (Chimbote and Santa Lucia, Peru); *Orn. du Pérou*, iii, 1886, 380.—MAYNARD, *Birds E. N. Am.*, 1879, 399.—DALGLEISH, *Bull. Nutt. Orn. Club*, v, 1880, 150 (Iceland, 1 record; Spain, 1 record).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880, 201 (*Cat. N. Am. Birds*, no. 559); *Nom. N. Am. Birds*, 1881, no. 559; *Proc. U. S. Nat. Mus.*, xii, 1889, 123 (Indefatigable Island); xix, 1896, 633 (Albemarle, Chatham, and Indefatigable Islands, Galapagos); *Auk*, viii, 1891, 339 (at sea, Bahamas, May 3).—SHARPE, *Proc. Zool. Soc. Lond.*, 1881, 16 (Talcahuano, Chile); *Cat. Birds Brit. Mus.*, xxiv, 1896, 364 (Mazatlan, Sinaloa; Chiapam, Guatemala; Barbados; Para and Cajutuba, Brazil; Tambo Valley and Para-

cas Bay, Peru; Viña del Mar, Aranca, Tarapaca, Talcahuano, Chiloé, and Province of Santiago, Chile; Charles and Indefatigable Islands, Galapagos, 754 (Cape San Lucas; etc.).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 545 (Lower California).—STEARNS, Proc. U. S. Nat. Mus., vi, 1883, 119 (Labrador).—NELSON, Cruise 'Corwin' in 1881 (1883), 90 (shores of Norton Sound, Alaska, a few breeding); Auk, ii, 1885, 241 (100 miles inland from Point Barrow; Kotzebue Sound, passing northward in spring); Rep. N. H. Coll. Alaska, 1887, 120 (Norton Sound, summer resident; habits, etc.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 315.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 248 (Koksoak, Labrador); Contr. N. H. Alaska, 1886, 149 (St. Michaels; Yukon delta).—BECKHAM, Auk, ii, 1885, 143 (Pueblo, Colorado, 1 spec., date unknown).—MURDOCH, Auk, ii, 1885, 201 (not observed at Point Barrow).—AGERSBORG, Auk, ii, 1885, 237 (s. e. South Dakota, common migrant).—WELLS, List Birds Grenada, 1886, 8; Proc. U. S. Nat. Mus., x, 1887, 629 (Grenada).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 265; 3rd ed., 1910, p. 125.—EVERMANN, Auk, iii, 1886, 92 (Ventura Co., California, rare winter visitant).—MACFARLANE, Ibis, 1887, 208 (Chimbote, w. Peru).—THORNE, Auk, iv, 1887, 264 (Fort Lyon, Colorado, flock of about 50 seen April 30, 1885).—SEEBORN, Geog. Distr. Charadriidae, 1887, pp. xxii, 331.—CORY, Auk, iv, 1887, 320 (West Indian localities and references); vii, 1890, 374 (Anegada); Birds West Ind., 1889, 240; Cat. West Ind. Birds, 1892, 94.—ZELEDÓN, Anal. Mus. Nat. C. R., i, 1888, 130 (Punta Arenas, Costa Rica).—BECKHAM, Proc. U. S. Nat. Mus., xi, 1888, 637, 654 (Bexar Co., Texas).—FEILDEN, Ibis, 1889, 497 (Barbados; habits).—CLARKE (W. E.), Auk, vii, 1890, 321 (Fort Churchill, Keewatin).—MACFARLANE (R.), Proc. U. S. Nat. Mus., xiv, 1891, 429 (Franklin Bay, Mackenzie).—HAGERUP, Birds Greenland, 1891, 55 (occasional visitant).—LAWRENCE (R. H.), Auk, ix, 1892, 43 (Grays Harbor, Washington, April 19; winter resident?).—SCOTT, Auk, ix, 1892, 212 (Caloosahatchie River, Florida, migrant).—MACKAY, Auk, ix, 1892, 345-352 (habits in Massachusetts).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 395 (Lima, Peru, Oct. 6).—JAMES, New List Chilean Birds, 1892, 12.—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 76 (Trinidad).—IRBY, Orn. Straits Gibralt., 2nd ed., 1895, 291.—ELLIOT, N. Am. Shore Birds, 1895, 156, pl. 48.—LANE, Ibis, 1897, 312 (Viña del Mar, near Valparaíso, Chile; habits).—SCHALOW, Zool. Jahrb., Suppl., iv, Heft 3, 1898, 659 (Chile).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 189 (Charles, Chatham, Albemarle, and Indefatigable Islands, Galapagos); ix, 1892, 418 (Galapagos in migration).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 365 (Maxatlan; Rio Zacatula, Colima; Ventosa Bay, Oaxaca; Laguna de Chiapam, Guatemala; Fonseca Bay, Honduras; Punta Arenas and San Carlos, Costa Rica; Galapagos; South America).—RILEY, Smithsonian Misc. Coll., vol. 47, 1904, 280 (Barbuda, Lesser Antilles, Sept., Nov.).—BECK, Condor, ix, 1907, 109, in text (Clipperton Island, Nov.).—BERLEPSCH, Novit. Zool., xv, 1908, 305 (Cayenne).—REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, lxxvi, 1910, 94 (coast of Piahy, n. e. Brazil).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 418 (Costa Rica).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 54 (Albemarle, Charles, Hood, Indefatigable, James, and Narborough islands, Galapagos).—BOGARDUS, Auk, xxx, 1913, 270 (Rockaway Beach, Long Island, Dec. 24, 1912).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 41 (Porto Rico, rare visitant).

Numenius hudsonicus? ALBRECHT, Journ. für Orn., 1862, 206 (Jamaica).

[*Numenius*] *hudsonicus* D'HAMONVILLE, Cat. Ois. Eur., 1876, 50 (Iceland; England).

- N[umenius] hudsonicus* GRAY, Gen. Birds, iii, 1847, 569.—CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 757.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois); Man. N. Am. Birds, 1887, 171.—COUES, Key N. Am. Birds, 2nd ed., 1884, 645.
- Numenius (Phaeopus) hudsonicus* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 235 (Henley Harbor, Labrador).
- Unemius* [typog. error] *hudsonicus* McLENNAN, Cruise 'Corwin' in 1884, 121 (Kowak River, n. w. Alaska, breeding).
- Numerius* [typog. error] *hudsonicus* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 570 (Peru).
- Phaeopus hudsonicus* HENRY, Proc. Ac. Nat. Sci. Phila., xi, 1859, 108 (New Mexico).
- [*Phaeopus*] *hudsonica* HEINE and RECHENOW, Nom. Mus. Hein. Orn., 1890, 326 (Mexico).
- Numenius phaeopus* var. *hudsonica* PELZELN, Ibis, 1878, 121 (as to supposed type).
- Numenius hudsonius* VIEILLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 304.—ALLEN, Proc. Essex Inst., iv, 1864, 87 (Massachusetts, migrant, winter).—GUNDLACH, Journ. für Orn., 1878, 161, 187 (Porto Rico); Anal. Soc. Esp. Hist. Nat., vii, 1878, 367 (Porto Rico).
- N[umenius] hudsonius* HOLBÖLL, Naturhist. Tidsskr., iv, 1843, 407 (Greenland).
- Numenius melanopus* VIEILLOT, Nouv. Dict. Nat., viii, 1817, 306, part (North America; includes *Numenius americanus*).
- Numenius rufiventris* VIGORS, Zool. Journ., iv, 1829, 356 (n. w. North America); Zool. Voy. 'Blossom,' Birds, 1839, 28 (no locality given).—BAIRD, in Rep. Stansbury's Surv. Great Salt Lake, 1852, 334 (Pacific coast, North America).
- Numenius brasiliensis* MAXIMILIAN, Beitr. Naturg. Bras., iv, pt. ii, 1833, 708 (s. e. Brazil; type now in coll. Am. Mus. Nat. Hist.; see Allen, Bull. Am. Mus. N. H., ii, 1889, 272).
- Numenius rufus* VIEILLOT, Gal. Ois., ii, 1834, 118, part (Hudson Bay; type now in coll. Brit. Mus.; includes *N. americanus*).
- Numerius intermedius* NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 100 (North America).
- Numenius phaeopus* (not *Scolopax phaeopus* Linnæus) CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 757.—PELZELN, Orn. Bras., 1870, 308, 457.

PHÆOPUS TAHITIENSIS (Gmelin).

BRISTLE-THIGHED CURLEW.

Adults in breeding season (sexes alike).—Pileum with two broad stripes of dark sooty brown (fuscous or clove brown), slightly broken by a few broad streaks of buffy, separated, longitudinally, by a narrower stripe of light buff, broadly streaked with dark sooty brown, and bordered laterally by a broad superciliary stripe of light buff, narrowly streaked with dark sooty brown; hindneck dull light buff, rather broadly streaked with dark sooty brown; general color of upper parts dark brown (clove brown or fuscous) irregularly spotted with buff, the lower back and rump nearly uniform dark brown; primary coverts and primaries dusky (dark fuscous, nearly fuscous-black on coverts), the outer webs of four to six inner primaries with large spots of buff; shaft of outermost primary white, that of the next whitish proximally, the others growing gradually deeper

brownish; upper tail-coverts light cinnamon-buff to pinkish buff, with a few irregular (partly V-shaped or narrowly obomegoid) markings of fuscous, especially anteriorly (next to rump); tail light cinnamon-buff to pinkish buff (the middle rectrices sometimes shaded with grayish brown) tipped with paler and crossed by about six broad bars, or bands of fuscous; side of head and neck and entire under parts dull light pinkish buff to very pale buff (between cartridge buff and ivory yellow), the chin and upper throat, breast, abdomen, posterior flanks, anal region, and under tail-coverts immaculate, the sides of head and neck, lower throat, foreneck, and chest streaked with fuscous, the sides and anterior part of flanks (sometimes sides of chest also) irregularly barred or transversely spotted with the same, mostly on outer webs of feathers; a more or less "solid" loreal stripe of fuscous, extending from rictus to eye, and a narrow postocular stripe, or streak, of the same; axillars broadly barred or banded with cinnamon-buff and fuscous, the two colors about equal in extent, the fuscous bars more or less confluent along shafts; under wing-coverts cinnamon-buff, heavily spotted with fuscous, the under primary coverts for the greater part uniform grayish brown; inner webs of primaries grayish brown, spotted or mottled along edges with pale cinnamon-buff; bill blackish brown, the basal half, or more, of mandible paler (dull dark flesh color in life); iris dark brown; legs and feet dusky (livid bluish in life).

Winter plumage.—Similar to the summer plumage but more deeply colored, the spotting of upper parts deep cinnamon-buff to cinnamon.^a

Adult male.—Wing, 222–230 (226.9); tail, 84–96 (92.1); exposed culmen, 69–88 (78.7); tarsus, 51–58.5 (55.2); middle toe, 34.5–40 (36.8).^b

Adult female.—Wing, 227–252 (240.3); tail, 97–109 (100.7); exposed culmen, 83–96 (90); tarsus, 54.5–60 (56.7); middle toe, 36.5–41 (39.1).^b

Breeding range unknown, but possibly some portion of north-western Alaska (Fort Kenai, May 18; St. Michaels, Norton Sound, May 23; Kotzebue Sound, Aug. 26; Kowak River); migrating southward through various island groups of the Pacific Ocean, chiefly eastward of the 180th meridian, having been recorded from the following: Hawaiian group (all the islands, including Laysan, Sept. to spring); Fanning group (Fanning, Palmyra, and Christmas islands); Phoenix group (Phoenix and Canton islands); Marshall group (Jaluit Island); Gilbert group; Society group (Tahiti); Low Archipelago or Paumotu group (Vincennes Island); Marquesas; Cook Islands (Cook,

^a At least on newly acquired feathers. One thus marked (shot November 8) is molting from a much faded plumage in which the spotting of the upper parts and the general color of the under parts is almost buffy white on the old feathers.

^b Six specimens.

Palmerston and Hervey islands); Mariana (Marianne) group; New Caledonia.

- [*Scolopax tahitiensis* GMELIN, Syst. Nat., i, pt. ii, 1789, 656 (island of Tahiti Society group, South Pacific Ocean; based on *Otaheite Curlew* Latham, Synopsis Birds, iii, pt. 1, 1785 122; see Stejneger, Proc. U. S. Nat. Mus., x, 1887, 83, 84).—TURTON, Syst. Nat., i, 1806, 393.
- Numenius tahitiensis* STEPHENS, in Shaw's Gen. Zool., xii, pt. 1, 1824, 32.—BONAPARTE, Compt. Rend., xliii, 1856, 507.—GRAY, Cat. Birds Trop. Is., 1859, 49 (Society Islands; Cook Islands; New Caledonia; Hawaiian Islands; Christmas Island).—FINSCH and HARTLAUB, Faun. Centralpolynesiens, 1867, 175.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. 562); Nom. N. Am. Birds, 1881, no. 562.—NELSON, Arctic Cruises 'Corwin' in 1881 (1883), 90 (St. Michaels, Alaska, 1 spec., spring of 1880); Rep. Nat. Hist. Coll. Alaska, 1887, 121, pl. 9 (St. Michaels).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 324.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1896, no. 268; 3rd ed., 1910, p. 125.—TOWNSEND (C. H.), Auk, iv, 1887, 12 (Kowak River, n. w. Alaska, 1 spec.); Cruise 'Corwin' in 1885 (1887), 91 (Kotzebue Sound, Alaska, 1 spec., Aug. 26).—SEEBOHM, Geog. Distr. Charadriidae, 1887, pp. xxii, 332.—LESTER, Proc. Zool. Soc. Lond., 1891, 299 (Phoenix Island).—WIGLESWORTH, Abh. K. Zool. Mus. Dresden, 1890-91 (Aves Polynes.), 66 (Marianne, Society, Marquesas, Paumotu, and Fanning Islands; Hervey Island).—WILSON and EVANS, Aves Hawaienses, pt. iii, 1892.—ROTHSCHILD, Avif. Laysan, pt. i, 1893, 17.—ELLIOT, N. Am. Shore Birds, 1895, 161, pl. 50.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 367 (Canton Island, Phoenix group; Molokai, Hawaiian group), 754 (Samoa; Phoenix Island).—HENSHAW, Birds Hawaiian Is., 1902, 91 (all islands of group, Sept. to spring).—FISHER (W. K.), Bull. U. S. Fish Com. for 1903, 35, pl. 8, fig. 42 (Laysan, migrant).
- N[umenius] tahitiensis* VIEILLOT, Tabl. Enc. Méth., iii, 1823, 1157.—GRAY, Gen. Birds, iii, 1847, 569.—RIDGWAY, Man. N. Am. Birds, 1887, 171.—BRYAN, Key Birds Hawaiian Group, 1901, 28.
- [*Numenius tahitiensis* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 69 (Palmerston Island; Fanning Island; Marquesas Islands).
- Numenius tahitiensis* VIEILLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 308.
- (?) [*Numenius] tahitiensis* LATHAM, Index Orn., ii, 1790, 711.
- Numenius taitensis* COUES, Check List, 2nd ed., 1882, no. 647.
- N[umenius] taitensis* COUES, Key N. Am. Birds, 2nd ed., 1884, 646.
- Numenius femoralis* PEALE, Zool. U. S. Expl. Exped. (Wilkes), 1848, 233, pl. 66, fig. 1 (Vincennes Island, Paumotu group, Pacific Ocean; coll. U. S. Nat. Mus.).—HARTLAUB, Archiv für Naturg., 1852, 120; Journ. für Orn., 1854, 170 (Paumotu group).—CASSIN, Orn. U. S. Expl. Exped. (Wilkes), 1858, 316, pl. 37 (Vincennes Island, Paumotu group).—GRAY, Cat. Birds Trop. Is., 1859, 50 (Paumotu group).—RIDGWAY, Am. Nat., viii, 1874, 435 (Fort Kenai, Alaska, 1 spec., May 18, 1869).—COUES, Check List, 1873, App., p. 135, no. 442 bis; Bull. U. S. Nat. Mus., no. 7, 1877, 19 (Palmyra and Christmas islands).—STREETS, Am. Nat., xi, 1877, 71, in text (Christmas Island); Bull. U. S. Nat. Mus., no. 7, 1877, 19 (Palmyra Island, Fanning group, very abundant).—FINSCH, Ibis, 1880, 220, 331 (Jaluit, Marshall Islands), 432, 433 (Gilbert Islands).—TRISTRAM, Ibis, 1881, 251 (Marquesas Islands); 1883, 47 (Fanning Island).—STEJNEGER, Proc. U. S. Nat. Mus., x, 1887, 83 (Kauai Island, Hawaiian group; crit.); xi, 1888, 97 (Niuhau and Kauai islands).
- [*Numenius] femoralis* BONAPARTE, Compt. Rend., xliii, 1856, 579.

Numenius ——— ? GRAY, Cat. Birds Tropical Is., 1859, 50 (Marianne and Gilbert Islands).

Numenius phaeopus (not *Scolopax phaeopus* Linnaeus) SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 93, part.

Numenius australis (not of Gould) DOLE, Proc. Bost. Soc. N. H., xii, 1869, 303 (Hawaiian Islands).

N[umenius] tibialis LAYARD (E. L. and E. L. C.), Ibis, 1882, 533 (Anseвата, New Caledonia).—TRISTRAM, Ibis, 1882, 534.

Genus MESOSCOLOPAX Sharpe.

Mesoscolopax SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 371. (Type, by original designation, *Numenius minutus* Gould.)

Medium-sized or rather large Scolopacidae (wing 180–215 mm.) with the slender, slightly decurved, bill shorter than tarsus and first phalanx of middle toe and much shorter than tail; hallux much shorter than basal phalanx of middle toe, and primaries projecting beyond distal secondaries much farther than distance from tips of the latter to bend of wing.

Bill slender, attenuated and slightly decurved distally, its narrow tip very slightly expanded; exposed culmen shorter than tarsus and basal phalanx of middle toe, much shorter than tail; nostril subbasal, longitudinally linear (slit-like); nasal groove distinct for at least basal half of maxilla, sometimes for two-thirds or more; malar antia posterior to latero-frontal antia, the mental antia about on line (vertically) with anterior end of nostril; frontal antia forming a very slight indentation (angular or shallowly concave) at base of culmen. Wing ample, pointed, the longest primary (outermost) exceeding distal secondaries by much more than half the length of wing; tertials elongated, subacuminate, but the longest falling far short of tip of longest primary (not extending beyond fourth, sometimes not beyond sixth, primary, from outside); tarsus less than twice as long as middle toe without claw, the acrotarsium transversely scutellate, the planta tarsi transversely scutellate in *M. minutus*, usually with rather large hexagonal scales (but sometimes more or less transversely scutellate) in *M. borealis*; bare portion of tibia as long as middle toe without claw, transversely scutellate before and behind in *M. minutus*, with small hexagonal scales in front and larger ones behind in *M. borealis*; lateral toes decidedly shorter than middle toe, the outer slightly longer than the inner; hallux small, decidedly shorter than basal phalanx of middle toe; interdigital spaces webbed basally, the web between outer and middle toes decidedly shorter than basal phalanges of those toes, that between inner and middle toes still smaller (more deeply incised); all the anterior toes with a more or less distinct lateral tumid membrane (conspicuously developed in *M. borealis*, indistinct in *M. minutus*).

^a *Mesos*, middle; + *Scolopax* (σκολόπαξ, a woodcock). (Richmond.)

Coloration.—Above spotted with fuscous and grayish buffy, the tail grayish brown or brownish gray barred with fuscous; primaries wholly fuscous, even on inner webs, or with only an indistinct edging, or marginal mottling, on the latter; pileum fuscous streaked with buffy and divided medially by a line of the same; under parts dull buffy (more or less deep) the foreneck and chest streaked with fuscous, the sides and flanks more or less barred with the same; axillars cinnamon-buffy (more or less deep) barred with grayish brown or fuscous.

Range.—Northern parts of Northern Hemisphere, far southward in migration. (Two species.)

The type of *Mesoscolopax* agrees so closely with "*Numenius*" *borealis* in essential features of structure and in details of coloration that it seems necessary to place the two species together, the only alternative being to make a special genus for *N. borealis*, a procedure which the slight structural differences do not, in my opinion, warrant. In *M. minutus* the legs and toes are relatively longer and more slender, the lateral membrane of the anterior toes decidedly less developed, and both the acrotarsium and planta tarsi, as well as both anterior and posterior sides of the naked portion of the tibia, are always distinctly and regularly transversely scutellate. In *M. borealis* the legs and toes are relatively shorter and stouter, the lateral membrane of the anterior toes is conspicuously developed, and only the acrotarsium is (as a rule) regularly transversely scutellate; but occasional specimens show a scutellation of the planta tarsi closely approximating a regular single series of transverse scutella, and the posterior side of the naked portion of the tibia is often covered with large, decidedly transverse scales. In coloration the two species agree so minutely that the pale buff axillars and under wing-coverts of *M. minutus* and the cinnamon-buff of the same in *M. borealis* constitute practically the only difference. The bill is, apparently, slightly less decurved in *M. minutus* than in *M. borealis*.

KEY TO THE SPECIES OF MESOSCOLOPAX.

- a. Tarsus distinctly transversely scutellate behind; ground color of axillars and under wing-coverts pale buff. (Eastern Siberia, etc., migrating to Moluccas, Australia, etc.).....*Mesoscolopax minutus* (extralimital).^a

a *Numenius minutus* Gould, Proc. Zool. Soc. Lond., 1840, 176 (New South Wales); Birds Australia, vi, 1848, pl. 49 and text; Temminck and Schlegel, Fauna Japonica, Aves, 1849, 111, pl. 67; Seebohm, Geog. Distr. Charadriidæ, 1887, 335; Birds Jap. Empire, 1890, 317; Mathews, Birds Australia, iii, pt. 2, 1913, pl. [146] facing p. 180.—*Mesoscolopax minutus* Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 371; Mathews, Birds Australia, iii, pt. 2, 1913, 180.—*Numenius minor* (not of Leach, 1816) S. Müller, Verh. Land-en Volkenk., 1840, 110; Dresser, Birds Europe, viii, 1873, 245; Ramsay, Tab. List Austral. Birds, 1888, 20.—(?) *Numenius brevirostris* (not of Lichtenstein, 1823) Rosenberg, Nat. Tijdschr. Nederl. Ind., xxv, 1863, 255; Journ. für Orn., 1864, 137.

aa. Tarsus not distinctly, if at all, transversely scutellate behind; ground color of axillars and under wing-coverts cinnamon-buff. (Northern North America, migrating to West Indies, Central America, and South America.)

Mesoscolopax borealis (p. 412).

MESOSCOLOPAX BOREALIS (Forster).

ESKIMO OUNLEW.

Adults in breeding season (sexes alike).—Pileum sooty black, more or less streaked with pale buffy, especially along median line; a broad superciliary stripe of pale buffy narrowly streaked with blackish, especially on supra-auricular portion; lores rather thickly speckled, flecked, or streaked with blackish, forming a more or less distinct cuneate patch between bill and eye; a blackish or fuscous postocular streak (along upper edge of auriculars); interscapulars sooty black, broadly edged (laterally) and spotted along edges with dull buff, the scapulars similar but with the buffy spots along edges larger; lesser wing-coverts sometimes nearly uniform sooty blackish or dark fuscous, sometimes margined (at least in part) with dull buffy; middle coverts dusky grayish brown or fuscous centrally, broadly margined or marginally spotted with buffy, the greater coverts lighter grayish brown, more narrowly margined with buffy; secondaries still lighter grayish brown, narrowly margined with very pale buffy or buffy whitish; tertials dusky grayish brown or fuscous, deeply notched with light dull buffy, or with broad angular spots of the same along edges; primary coverts and primaries dusky grayish brown or fuscous, the proximal coverts and quills narrowly margined terminally with whitish; lower back and rump dark fuscous spotted with buff, the upper tail-coverts similar but with buff spots larger and paler and on the longer coverts forming interrupted broad bars; tail light grayish brown or brownish gray, sometimes tinged with cinnamon on lateral rectrices, distinctly barred with dark fuscous, and narrowly tipped with paler; chin, throat, and anterior portion of malar region immaculate buffy white; rest of head and neck (except as described) and under parts dull buff (between pinkish buff and vinaceous-buff), the lower breast, abdomen, and anal region usually immaculate or nearly so, the sides of head and neck, foreneck, chest, and upper breast narrowly streaked with fuscous, the sides with V-shaped markings, the flanks with irregular, rather broad, bars, the lateral and longer under tail-coverts with a few small streaks and spots of the same; axillars and under wing-coverts cinnamon-buff, the former with narrow V-shaped bars, the latter with rather sparse irregular spots, bars, and streaks of fuscous; inner webs of primaries wholly uniform grayish brown, or with an indistinct edging or marginal mottling of pale cinnamon-buffy; bill blackish, the basal portion of mandible brownish; iris dark brown; legs and feet dusky (dull slate color or dark gray in life).

Adult male.—Wing, 200.5–214 (206.3); tail, 77–83.5 (80.1); exposed culmen, 48–53 (51.3); tarsus, 39.5–44 (42.1); middle toe, 24–26 (25.1).^a

Adult female.—Wing, 189.5–215 (203.8); tail, 76–82 (79.8); exposed culmen, 47–60 (54.9); tarsus, 41–45 (43.9); middle toe, 25.5–27.5 (26.3).^a

Breeding on the barren grounds of Arctic America, from Norton Sound, Alaska, to northern Mackenzie (valley of Anderson River; Point Lake); migrating southward, through eastern North America and West Indies (Porto Rico; Barbados; Grenada) to Falkland Islands, Patagonia (Chupat Valley), Uruguay (Concepción; Montevideo), Paraguay, Argentina (Entre Rios; Buenos Aires), and Chile; accidental or casual in Bermudas, California (San Diego, Sept., 1883), in Galapagos archipelago (Charles Island), Greenland (2 records), Iceland, and British Islands (5 records); one record for Guatemala (San Geronimo, April, —); northeastern Siberia (Cape Wankarem, Aug. 6, 1881) ? (Now nearly extinct.)

Scolopax borealis FORSTER, Philos. Trans., lxii, 1772, 411 (Albany Fort, Keewatin), 431 (Hudson Bay).

S[colopax] borealis BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 73 (crit.); Obs. Nom. Wilson's Am. Orn., 1826, [155].

[*Numenius*] *borealis* LATHAM, Index Orn., ii, 1790, 712.—MARTENS, Journ. für Orn., 1859, 219 (Bermudas).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 294 (vicinity New York City).—GRAY, Hand-list, iii, 1871, 42, no. 10255.—COUES, Key N. Am. Birds, 1872, 262.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 146.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 50 (Scotland).—GUNDLACH, Journ. für Orn., 1878, 161 (Porto Rico).—CORY, List Birds West Ind., 1885, and revised ed., 1886, 27.—SHARPE, Hand-list, i, 1899, 158.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 69 (Pictou, Nova Scotia).

Numenius borealis VIEILLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 302.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 314; Synopsis, 1828, 314; Am. Orn., iv, 1833, 118, pl. 26, fig. 3; Geog. and Comp. List, 1838, 49.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 378, pl. 65 (Point Lake, Mackenzie, breeding).—LESSON, Traité d'Orn., 1831, 566.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 101.—AUDUBON, Orn. Biog., iii, 1835, 69, pl. 208; v, 1839, 590; Synopsis, 1839, 255; Birds Am., 8vo ed., vi, 1843, 45, pl. 357.—NAUMANN, Vög. Deutschl., viii, 1836, 506.—VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 28.—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—PEABODY, Rep. Orn. Mass., 1839, 366.—GIRAUD, Birds Long Is., 1844, 274.—GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 94.—JARDINE, Contr. Orn., 1849, 84 (Bermudas, very rare in autumn).—HURDIS, Jardine's Contr. Orn., 1850, 10 (Bermudas, autumn).—MCCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 223 (Texas).—KJAERBÖLLING, Naumannia, iv, 1854, 308 (Iceland; Europe).—PUTNAM, Proc. Essex Inst., i, 1856, 218 (Massachusetts).—YARRELL, Hist. Brit. Birds, 3rd ed., ii, 1856, 620.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 744.—BAIRD, Cat. N. Am. Birds, 1859, no. 551.—WILLIS, An. Rep. Smithsonian. Inst. for 1858 (1859), 285 (Nova Scotia).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—REINHARDT, Ibis, 1861, 10 (Greenland, 2 specs.); Vid. Medd.

^a Five spec.mens.

Nat. For. Kjobenhavn, 1881, 185 (Greenland).—SALVIN, *Ibis*, 1861, 356 (San Geronimo, Guatemala); *Proc. Zool. Soc. Lond.*, 1883, 429 (Charles Island, Galapagos).—BOARDMAN, *Proc. Bost. Soc. N. H.*, ix, 1862, 129 (Calais, Maine).—VERRILL, *Proc. Essex Inst.*, iii, 1862, 158 (Oxford Co., Maine).—SCLATER, *Ibis*, 1862, 277 (Europe); *Proc. Zool. Soc. Lond.*, 1867, 339 (Chile).—BLAKISTON, *Ibis*, 1863, 134 (Barren lands, Arctic America).—ALLEN, *Proc. Essex Inst.*, iv, 1864, 87 (Massachusetts); *Am. Nat.*, vi, 1872, 272 (Fort Hays, Kansas, 1 spec.); *Bull. Mus. Comp. Zool.*, iii, 1872, 182 (Kansas, June).—SCHLEGEL, *Mus. Pays-Bas*, v, no. 27 (Scolopaces), 1864, 101 (Brazil).—LÉOTAUD, *Ois. Trinidad*, 1866, 444.—DRESSER, *Ibis*, 1866, 40 (s. Texas); *Birds Europe*, viii, 1873, 221, pl. 575.—WEIZ, *Proc. Bost. Soc. N. H.*, x, 1866, 267 (n. e. Labrador).—COUES, *Proc. Bost. Soc. N. H.*, xii, 1868, 123 (South Carolina); *Proc. Essex Inst.*, v, 1868, 296 (New England); *Check List*, 1873, no. 443; 2nd ed., 1882, no. 646; *Birds Northwest*, 1874, 510; in *Elliott's Affairs in Alaska*, 1875, 188 (Pribilof Islands, migrant).—DALL and BANNISTER, *Trans. Chicago Ac. Sci.*, i, 1869, 293 (Fort Yukon, Alaska).—TURNBULL, *Birds E. Penna. and N. J.*, 1869, 42 (*Phila. ed.*, 33).—COOPER, *Am. Nat.*, iii, 1869, 83 (Ft. Benton, Montana, "breeding").—NEWTON, *Proc. Zool. Soc. Lond.*, 1871, 56, pl. 4, fig. 1 (egg; Arctic coast east of Anderson River, Mackenzie).—BROOKE, *Proc. Zool. Soc. Lond.*, 1871, 299 (Sligo, Ireland).—GRAY (R.), *Birds West Scotland*, 1871, 290 (Aberdeen, Sept.).—HARTING, *Handb. Brit. Birds*, 1872, 145 (4 British records); *Zoologist*, 1879, 135 (Aberdeenshire, Scotland).—SCLATER and SALVIN, *Proc. Zool. Soc. Lond.*, 1873, 456 (Neotropical range).—BREWER, *Proc. Bost. Soc. N. H.*, xvii, 1875, 446 (New England, migrant).—REID, *Zoologist*, 1877, 478 (Bermudas); *Bull. U. S. Nat. Mus.*, no. 25, 1884, 241 (Bermudas, frequent).—SENNETT, *Bull. U. S. Geol. and Geog. Surv. Terr.*, iv, 1878, 56 (Corpus Christi, Texas).—MERRILL (J. C.), *Proc. U. S. Nat. Mus.*, i, 1878, 162 (Fort Brown, Texas).—DURNFORD, *Ibis*, 1878, 404 (Chupat Valley, centr. Patagonia).—GUNDLACH, *Journ. für Orn.*, 1878, 188 (Porto Rico); *Anal. Soc. Esp. Hist. Nat.*, vii, 1878, 367 (Porto Rico).—MAYNARD, *Birds E. N. Am.*, 1879, 400.—KUMLIEN, *Bull. U. S. Nat. Mus.*, no. 15, 1879, 88 (Kingwah Fjord, June).—DALGLEISH, *Bull. Nutt. Orn. Club*, v, 1880, 210 (5 British records).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880, 201 (Cat. N. Am. Birds, no. 560); xix, 1886, 693 (Charles Island, Galapagos); *Nom. N. Am. Birds*, 1881, no. 560.—HARVIE-BROWN, *Proc. Nat. Hist. Soc. Glasgow*, 1881, 314 (Kincardineshire, Scotland).—ELLIOTT, *Mon. Pribylov Group*, 1882, 130 (1 spec., June, 1872).—NELSON, *Cruise 'Corwin' in 1881 (1883)*, 90 (Norton Sound, Alaska, breeding; Wankarem, n. e. Siberia); *Rep. N. H. Coll. Alaska*, 1887, 121 (coast Bering Sea and Kotzebue Sound; Fort Yukon; Nulato; Point Barrow; habits).—BRITISH ORNITHOLOGISTS' UNION, *List Brit. Birds*, 1883, 178.—SAUNDERS, ed. *Yarrell's Brit. Birds*, iii, 1883, 512; *Man. Brit. Birds*, 1889, 615.—STEARNS, *Proc. U. S. Nat. Mus.*, vi, 1883, 120 (Labrador).—BARROWS, *Auk*, i, 1884, 316 (Concepcion and pampas, Uruguay, Sept. 9 to March 1).—HOLTERHOFF, *Auk*, i, 1884, 393 (San Diego, California, 1 spec., Sept., 1883).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, i, 1884, 318.—TURNER, *Proc. U. S. Nat. Mus.*, viii, 1885, 248 (Kokoak River, Labrador, Sept. 4); *Contr. N. H. Alaska*, 1886, 149 (60 miles west of Nunivak Island, Bering Sea, May 22, 1874).—MURDOCH, *Auk*, ii, 1885, 63 (Point Barrow, Alaska, May 20 to July 6, rare).—LAWRENCE (N. T.), *Auk*, ii, 1885, 273 (Far Rockaway, Long Island, Sept. 12, 1875, Sept. 10, 1876, and Sept. 26, 1884; 4 specs.).—AGERSBERG, *Auk*, ii, 1885, 287 (s. e. South Dakota, spring, sometimes very abundant).—SKEBOHM, *Hist. Brit. Birds*, iii, 1885, 94, pl. 33, fig. 3 (egg); *Geog. Distr. Charadriidae*,

- 1887, pp. xxii, 333.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 266; 3rd ed., 1910, p. 125.—WELLS, List Birds Grenada, 1886, 8; Proc. U. S. Nat. Mus., ix, 1887, 629 (Grenada).—McLENEGAN, Cruise 'Corwin' in 1885 (1887), 78 (Noatak River, n. w. Alaska, breeding).—BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay).—PALMÉN, Vega-Exped., 1887, 301 (Cape Wankarema, Tschuktschi coast, n. e. Siberia, Aug. 6, 1881).—CORY, Auk, iv, 1887, 320 (West Indian localities and references); Birds West Ind., 1889, 241; List West Ind. Birds, 1892, 94 (Porto Rico; Grenada).—IRBY, Key List Brit. Birds, 1888, 49.—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 637, 654 (Bexar Co., Texas).—SCLATER and HUDSON, Argentine Orn., ii, 1889, 192.—FÄILDEN, Ibis, 1889, 498 (Barbados; habits).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 429 (Fort Anderson, Mackenzie).—OUSTALET, Mis. Sci. Cap Horn, Ois., 1891, 290.—MACKAY, Auk, ix, 1892, 16-21 (migrations, etc., in New England); x, 1893, 79 (migration in Massachusetts in 1892); xiii, 1896, 182 (Prince Edward Island, flock, Sept. 1, 1872); xiv, 1897, 212 (1896 migration in Massachusetts); xv, 1898, 52 (1897 migration in Massachusetts); xvi, 1899, 180 (1898 migration in Massachusetts).—SCOTT, Auk, ix, 1892, 212 (Caloosahatchie River, Florida, migrant).—JAMES, New List Chilean Birds, 1892, 12.—LILFORD, Col. Figs. Brit. Birds, pt. xxi, 1892.—TACZANOWSKI, Mém. Ac. Imp. Sci. St. Petersb., xxxix, 1893, 946 (Wankarem, n. e. Siberia, Aug. 6, 1881).—APLIN, Ibis, 1894, 210 (Uruguay).—POYNTING, Eggs Brit. Birds, pt. iii, 1896, 253, pl. 54.—KÖRNIGSWALD, Journ. für Orn., 1896, 395 (São Paulo, s. e. Brazil).—ELLIOT, N. Am. Shore Birds, 1895, 160, pl. 49.—SHAPE, Cat. Birds Brit. Mus., xxiv, 1896, 368, 755 (Mexico; San Geronimo, Guatemala; Grenada; Barbados; Xavier, Brazil; Paraguay; Chupat, Patagonia; etc.); Handb. Brit. Birds, iii, 1896, 326.—HOLMBERG, Segundo censo Argentina, i, 1898, 569.—IHERING, Rev. Mus. Paulista, iii, 1899, 432 (São Paulo).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 234 (Kenai Mts., Alaska, Aug. 11).—BUTLER, Auk, xxiii, 1906, 274 (Chalmers, Indiana, April 19, 1890).—FLEMING, Auk, xxiii, 1906, 451 (Toronto I., Ontario, 2 specs., 1864; Wolf I., near Kingston, Oct. 10, 1873).—BARBOUR, Auk, xxiii, 1906, 459 (at sea, bet. Ireland and Newfoundland, lat. 49° 06' N., long. 27° 28' W., May 26, 1906).—DABBENE, Orn. Argentina, 1910, 218 (Patagonia; Entre Rios).—COALE, Auk, xxviii, 1911, 276 (Oconto, Wisconsin, April 27, 1889).—SNYDER, Auk, xxx, 1913, 269 (Fox Lake, Dodge Co., Wisconsin, Sept. 10, 1912).—LAMB, Auk, xxx, 1913, 581 (East Orleans, Massachusetts, Sept. 5, 1913).—BERTONI, Fauna Parag., 1914, 38.—WETMORE, Bull. 326, U. S. Dept. Agric. 1916, 41 (Porto Rico, 1 record).—SWENK, An. Rep. Smithsonian Inst. for 1915 (1916), 325-340 (history; probable extermination).
- N[umenius] borealis* GRAY, Gen. Birds, iii, 1847, 569.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois); Man. N. Am. Birds, 1887, 171.—COUES, Key N. Am. Birds, 2nd ed., 1884, 646.
- Numenius (Phaeopus) borealis* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 236 (Hendley Harbor, Labrador, Aug. 16 and after; habits, etc.).
- [*Phaeopus*] *borealis* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 326.
- Unemius* [typog. error] *borealis* McLENEGAN, Cruise 'Corwin,' 1884, 121 (Kowak River, n. w. Alaska, breeding; habits).
- N[umenius] brevirostris* LICHTENSTEIN, Verz. Doubl., 1823, 75 (Montevideo, Uruguay; coll. Berlin Mus.).
- Numenius brevirostris* TEMMINCK, Pl. Col., v, 1825, pl. 381 and text.—GOULD, in Darwin's Zool. Voy. 'Beagle,' iii, 1841, 129 (Buenos Aires).—HARTLAUB, Index Azara's Apunt., 1847, 25.—REICHENBACH, Gallatores, 1850, pl. 78,

fig. 546.—SCLATER, Proc. Zool. Soc. Lond., 1860, 387 (Falkland Islands).—ABBOTT, Ibis, 1861, 156 (Falkland Islands).—PELZELN, Orn. Bras., 1870, 308 (Ypanema).

[*Numenius*] *brevirostris* PELZELN, Orn. Bras., 1870, 457.

Numenius microrhynchus PHILIPPI and LANDBECK, Wiegmann's Archiv für Naturg., 1866, i, 129 (Chiloe, Chile).

[*Numenius*] *microrhynchus* GRAY, Hand-list, iii, 1871, 43, no. 10256.

(?) *Tringa campestris* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxiv, 1819, 454 (Paraguay; based on *Chorlito campesino* Azara, Apunt. Parag., iii, 1803, 310).

(?) [*Tringa*] *campestris* VIEILLOT, Tabl. Enc. Méth., iii, 1823, 1087.

[*Numenius*] *hemirhynchus* "Temminck" BONAPARTE, Excursions divers Mus., etc., 1856, 17 (*nomen nudum*).

Numenius hudsonicus (not of Latham) PEABODY, Rep. Orn. Mass., 1839, 366.

Family PHALAROPODIDÆ.

THE PHALAROPES.

—*Phalaropodinae* BONAPARTE, Saggio distr. Anim. Vertebr., 1831, 59.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.—STEJNEGER, Standard Nat. Hist., iv, 1885, 107, in text.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, xii, 91, 693; Hand-list, i, 1899, xvi, 167.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 394.

—*Phalaropodidae* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 689, 705.—CARUS, Handb. Zool., i, 1868, 336.—COUES, Key N. Am. Birds, 1872, 247; 2d ed., 1884, 612.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385; Bull. Ill. State Labr. Nat. Hist., no. 4, 1881, 197; Man. N. Am. Birds, 1887, 143.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108, 325.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 145; 3rd ed., 1910, 107.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 2.

>*Phalaropodidae* BONAPARTE, Saggio distr. Anim. Vertebr., 1831, 59 (includes *Recurvirostridae*).

Small natatorial Charadrii with tarsi excessively compressed, toes margined laterally with a conspicuous, usually lobed or scalloped membrane, and plumage of under parts very dense, gull-like.

The Phalaropodidae are small sandpiper-like birds which differ conspicuously from the Scolopacidae and allied groups in their lobed or scalloped-margined toes and greatly compressed tarsi, the plumage being at the same time more full and compact, like that of the coots, gulls, and petrels. These characters are mainly adaptive, and enable the Phalaropes to swim with ease. In fact, they are as much at home upon the surface of the water, even that of the ocean, as are any of the true so-called swimming birds.

The family is restricted, during the breeding season, to the northern portions of the northern hemisphere (one species, however, breeding much farther southward in the western United States), and is very limited in the number of its species, of which only three are known, referable to three genera. All of them occur in America, one of them being peculiar, the other two occurring in Europe and Asia also.

KEY TO THE GENERA OF PHALAROPIDÆ.

- a. Bill broad, somewhat expanded subterminally; nostrils separated from loreal feathering by a space about equal in length to basal depth of maxilla; tarsus not more than one-sixth as long as wing, not longer than middle toe with claw; lateral membrane of anterior toes very broad, the outer margin of the segments strongly convex.....*Phalaropus* (p. 417).
- aa. Bill slender, not at all expanded subterminally; nostrils close to loreal feathering; tarsus at least one-fifth as long as wing, longer than middle toe without claw; lateral membrane of anterior toes narrower, the margin of the segments much less strongly convex, or the margin continuous, without convex segments.
- b. Bill attenuated terminally (tapering in both lateral and vertical profiles); tarsus shorter than exposed culmen, about one-fifth as long as wing, but not longer than middle toe with claw; lateral membrane of toes broader, distinctly scalloped; tail graduated.....*Lobipes* (p. 423).
- bb. Bill subulate (of nearly uniform thickness, both vertically and horizontally, throughout); tarsus longer than exposed culmen, about one-fourth as long as wing, decidedly longer than middle toe with claw; lateral membrane of toes very narrow, not distinctly if at all scalloped; tail doubly emarginate.....*Steganopus* (p. 430).

Genus PHALAROPUS Brisson.

Phalaropus BRISSON, Orn., vi, 1760, 12. (Type, by tautonymy [*Phalaropus phalaropus* Brisson = *Tringa fulicaria* Linnaeus.]

Crymophilus ^a VIEILLLOT, Analyse, 1816, 62. (Type, *Phalarope à festons dentelés* Buffon = *Tringa fulicaria* Linnaeus.)

Crymophila (emendation) VOIGT, Thierreich, i, 1831, 876, footnote.

(?) *Amblyrhynchus* ^b (not of Leach, 1816) NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 247. (Type, by original designation, *Tringa glacialis* Gmelin = *T. fulicaria* Linnaeus?)

Phalaropes with broad bill, short tarsi (not more than one-sixth as long as wing and not longer than middle toe with claw), and nostrils decidedly in advance of loreal feathering.

Bill relatively broad (its width near tip more than one-sixth the length of exposed culmen and much greater than its depth at same point), the broad lateral groove of maxilla extending nearly to tip, the exposed culmen a little longer than tarsus; nostril longitudinal, linear or curved-linear, situated decidedly (for more than its length) anterior to nearest loreal feathering. Wing long and pointed, the longest primary (outermost or two outermost) extending decidedly beyond tips of longest tertials. Tail less than half as long as wing, graduated. Tarsus short (not longer than middle toe with claw, slightly shorter than exposed culmen), compressed, the acrotarsium with a single continuous series of narrow transverse scutella; outer toe a little shorter than middle toe, the inner toe decidedly shorter; anterior toes extensively webbed basally (the webs occupying about

^a Κρυμός, glacier, φιλέω, gaudeo (Vieillot).

^b Ἀμβλύς, blunt; ῥύγχος, bill, beak (Richmond).

half the interdigital spaces) and with broad, deeply scalloped lateral margins or lobes.

Coloration.—Summer adults with under parts vinaceous-brown or purplish cinnamon, the female with sides of head white and fore part and top of head blackish slate, the male similar but with pileum streaked with buff and white on sides of head more restricted; winter plumage white below, mostly bluish gray above.

Range.—Circumpolar regions south in winter to Chile, Falkland Islands, etc. (Monotypic.)

PHALAROPUS FULICARIUS (Linnaeus).

RED PHALAROPE.

Adult female in summer.—Anterior and upper parts of head, including chin, anterior portion of malar and loreal regions, and entire pileum down to upper eyelid (except posterior portion) uniform dark gray or blackish slate; sides of head, including greater part of loreal region and whole of suborbital and malar regions, immaculate white; neck, all round, and entire under parts deep purplish cinnamon or vinaceous-brown; hindneck mixed slate color or slate-gray and cinnamon; back and scapulars light ochraceous or buff, striped with black; wing-coverts slate color or deep slate-gray, the greater coverts tipped with white; remiges slate-dusky; axillars and under wing-coverts white, the coverts along edge of wing grayish dusky; bill greenish yellow^a (in life), the tip black; iris brown; legs and feet pale grayish blue (in life).^a

Adult male in summer.—Similar to the female but slightly smaller and decidedly duller in coloration; pileum and hindneck streaked with ochraceous or buffy, white on sides of head more restricted and less sharply defined, and cinnamonaceous of under parts usually slightly paler and broken, more or less, by admixture of white.

Winter plumage (sexes alike).—Head, neck, and under parts pure white, the occiput and orbital region slate color or blackish slate; upper parts plain light bluish gray.

Young.—Pileum, hindneck, back, and scapulars dull black, the feathers edged with pale tawny or brownish buff; wing-coverts, rump, and upper tail-coverts slate-grayish, the middle wing-coverts margined with pale buff, the upper tail-coverts with ochraceous or tawny; head and neck (except as described) and under parts white, the throat and chest tinged with brownish buff.

Downy young.—Forehead, sides of head and neck (including a broad superciliary stripe), chin, throat, foreneck, and chest dull brownish buff, the forehead more brownish; crown brown (light snuff brown or saccardo umber) medially, black laterally, the black

^a According to Audubon.

lateral stripes continued along each side of occiput, which is pale brown, transversely mottled or irregularly barred with dusky medially, the two buff superciliary stripes nearly uniting posteriorly where, however, separated by a black nuchal stripe; general color of upper parts light buffy-brown, mottled with dusky, the rump with a median stripe of black margined along each side by a stripe of dull buffy whitish; under parts of body dull buffy white, tinged posteriorly with brownish buff.

Adult male.—Wing, 119–130 (125.2); tail, 59–70.5 (62.9); culmen, 18.5–23 (21.9); tarsus, 19.5–21.5 (20.7); middle toe, 19.5–21.5 (20.5).^a

Adult female.—Wing, 129.5–139 (135.1); tail, 63–71 (66.4); culmen, 21–24 (22.5); tarsus, 20–22.5 (21); middle toe, 19–21.5 (20.4).^b

Breeding in circumpolar regions; in North America, from northern Alaska, Melville Island, northern Ellesmere Land, etc., southward to mouth of Kuskokwim River, Alaska, northern Mackenzie, central Keewatin, Hudson Strait, and southern Greenland; in Eastern Hemisphere, breeding from Iceland to eastern Siberia; migrating southward, over oceans and along sea coasts as far as New Zealand, Falkland Islands, southern Patagonia, Chile (Coquimbo Bay; Valparaiso Bay; off Juan Fernandez); occasional or casual in Bermudas and Hawaiian Islands (Kauai), and interior of United States during migration.

[*Tringa fulvicaria* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148 (Hudson Bay; based on *Red Coot-footed Tringa* Edwards, Nat. Hist., iii, pl. 142); ed. 12, i, 1766, 249.—BRÜNNICH, Orn. Bor., 1764, 51.—GMELIN, Syst. Nat., i, pt. ii, 1789, 676.

Tringa fulvicaria FABRICIUS, Fauna Groenlandica, 1780, 111.

Phalaropus fulicarius BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, 1825, 232; Obs. Nomencl. Wilson's Am. Orn., 1826, [196]; Ann. Lyc. N. Y., ii, pt. i, 1826, 159; pt. ii, 1827, 341; Geog. and Comp. List, 1838, 54.—LESSON, Man.

^a Sixteen specimens.

^b Eleven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Greenland.....	119.5	60	22	20.5	20
One adult male from Spitzbergen.....	122	63	20	19.5	19.5
One adult male from Siberia (Holy Cross Bay).....	119	61.5	23	21.5	21
Ten adult males from Alaska (mainland).....	126.3	63.6	21.8	20.9	20.8
Two adult males from Otter Island, Bering Sea.....	127	62.2	22	20	19.7
One adult male from Massachusetts.....	126	62	23	21	20
FEMALES.					
Three adult females from Greenland.....	137.2	66.8	22.3	20.7	20.3
One adult female from Spitzbergen.....	136	63	23	20	20.5
Two adult females from northern Alaska (Point Barrow).....	133.5	65.2	23	21	20.2
Three adult females from St. Paul Island, Bering Sea.....	135	67.3	22.5	21.8	20.2
Three adult females from Otter Island, Bering Sea.....	134.5	67.2	22.7	21.2	21
Two adult females from Labrador and Ungava.....	134	65.7	22.2	20.7	20

d'Orn., ii, 1828, 280; *Traité d'Orn.*, 1831, 562.—SWAINSON and RICHARDSON, *Fauna Bor.-Am.*, ii, 1831, 407 (Columbia River; breeding on North Georgian Islands and Melville Peninsula).—JARDINE, ed. *Wilson's Am. Orn.*, iii, 1832, 195, pl. 73, fig. 4.—NUTTALL, *Man. Orn. U. S. and Can.*, *Water Birds*, 1834, 236.—AUDUBON, *Orn. Biog.*, iii, 1835, 404, pl. 255; *Synopsis*, 1839, 239; *Birds Am.*, 8vo. ed., v, 1842, 291, pl. 339.—PEABODY, *Rep. Orn. Mass.*, 1839, 376.—BLYTH, *Proc. Zool. Soc. Lond.*, 1842, 94 (Europe; India); *Cat. Birds Mus. Asiat. Soc.*, 1849, 271 (Calcutta).—SELYS-LONGCHAMPS, *Faune Belge*, 1842, 123.—GIRAUD, *Birds Long Is.*, 1844, 245.—GRAY, *List Birds Brit. Mus.*, iii, *Grallæ*, 1844, 107; *List Brit. Birds*, 1863, 176.—BREWER, *Proc. Bost. Soc. N. H.*, iv, 1854, 326 (Europe; America); xvii, 1875, 445 (New England, migrant; Maine, summer).—PUTNAM, *Proc. Essex Inst.*, i, 1856, 230 (*Massachusetts*).—CASSIN, in Baird, *Rep. Pacific R. R. Surv.*, ix, 1858, 707; *Proc. Ac. Nat. Sci. Phila.*, xiv, 1862, 322 (Bering Straits).—BAIRD, *Cat. N. Am. Birds*, 1859, no. 521; *Ibis*, 1867, 287 (Greenland).—SUNDEVALL, *Svensk Fogl.*, *Suppl.*, 1860, pl. 12, figs. 4, 4b; *Oefv. K. Vet.-Ak. Stockholm*, 1874, 20 (*Spitzbergen*).—REINHARDT, *Ibis*, 1861, 11 (Greenland).—SCHLEGEL, *Dier. Nederl. Vogels*, 1861, pl. 23, figs. 9, 10, 10a; *Mus. Pays-Bas*, v, no. 27 (*Scolopaces*), 1864, 58.—BLAKISTON, *Ibis*, 1863, 131 (Hudson Bay).—VERRILL, *Proc. Essex Inst.*, ix, 1862, 234 (Oxford Co., Maine).—SWINBOE, *Proc. Zool. Soc. Lond.*, 1863, 315 (Hindustan).—MALMGREN, *Journ. für Orn.*, 1863, 372 (*Spitzbergen*); 1865, 199 (*Spitzbergen*).—NEWTON, in Baring-Gould's *Iceland*, 1863, 411 (breeding); *Ibis*, 1865, 499, 505 (*Spitzbergen*); *Proc. Zool. Soc. Lond.*, 1867, 165, pl. 15, fig. 1 (egg).—ALLEN, *Proc. Essex Inst.*, iv, 1864, 86 (*Massachusetts*, migrant).—JERDON, *Birds India*, iii, 1864, 695.—LAWRENCE, *Ann. Lyc. N. Y.*, viii, 1866, 295 (vicinity New York City).—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 236.—DRAKE, *Ibis*, 1867, 429 (Tangiers, Morocco).—COUES, *Proc. Essex Inst.*, v, 1868, 292 (New England coast, migrant); *Check List*, 1873, no. 411; 2d ed., 1882, no. 604; *Birds Northwest*, 1874, 471; in *Elliott's Affairs in Alaska*, 1875, 181 (*Pribilof Islands*).—DALL and BANNISTER, *Trans. Chicago Ac. Sci.*, i, 1869, 291 (Yukon River; Plover Bay, n. e. Siberia).—TURNBULL, *Birds E. Penn. and N. J.*, 1869, 55 (*Phila. ed.*, 44).—HEUGLIN, *Journ. für Orn.*, 1871, 103 (*Spitzbergen*; n. Europe).—SALVADORI, *Faun. Ital.*, Ucc., 1871, 210.—HARTING, *Proc. Zool. Soc. Lond.*, 1871, 113 (*Godthaab, Greenland*); *Handb. Brit. Birds*, 1872, 50.—FRITSCH, *Journ. für Orn.*, 1871, 385 (*Bohemia*).—IRBY, *Ibis*, 1873, 97 (s. Spain, Nov.); 1879, 345 (*Tangier, Morocco, Dec.*); *Orn. Straits Gibralt.*, 1875, 165; 2d ed., 1895, 275.—DRESSER, *Birds Europe*, vii, 1874, 606, pls. 538, 539, fig. 1; *Ibis*, 1904, 233 (*Taimayr Peninsula, Siberia, breeding*).—HANCOCK, *Birds Northumb. and Durham*, 1874, 123.—CORDEAUX, *Ibis*, 1875, 185 (*Helgoland*).—DANFORTH and HARVE-BROWN, *Ibis*, 1875, 420 (*Transylvania*).—BLANFORD, *Zool. East. Persia*, ii, 1876, 284.—FEILDEN, *Ibis*, 1877, 406 ("Danish America," 82° N. lat., June 30; 82° 30' N. lat., July; crit.).—DAVID and OUSTALET, *Ois. Chine*, 1877, 481.—ADAMS, *Ibis*, 1878, 438 (*St. Michaels, Alaska, breeding*).—BUTLER, *Cat. Birds Sind, etc.*, 1879, 64.—MAYNARD, *Birds E. N. Am.*, 1879, 372.—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880, 201 (*Cat. N. Am. Birds*, no. 563); *Nom. N. Am. Birds*, 1881, no. 563.—GIGLIOLI, *Ibis*, 1881, 209 (*Italy, Aug. to Feb.*); *Avif. Ital.*, 1886, 381; *Avif. Ital.*, 1st Resoc., 1889, 584; 2d Resoc., 1890, 659.—ELLIOTT, *Mon. Pribylov Group*, 1882, 129 (numerous July to Oct., but not breeding).—NELSON, *Cruise 'Corwin' in 1881* (1883), 91 (*Alaskan and Siberian coasts Bering Sea and adjacent Arctic coast; breeding from mouth of Kuskokwim River northward; habits*).—SEVERTZOV, *Ibis*, 1883, 76 (*Kara-Kul, centr. Asia*).—SALVIN, *Ibis*, 1883, 429 (*Coquimbo Bay, Chile*).—BRITISH ORNITHOLOGISTS' UNION, *List Brit. Birds*, 1883, 164.—

- HAAST, Trans. N. Z. Inst., xvi, 1883, 279 (Waimate Lagoon, New Zealand, June).—SAUNDERS, ed. Yarrell's Brit. Birds, iii, 1883, 310; Ibis, 1884, 389 (St. Jean de Luz, Dec.); Man. Brit. Birds, 1889, 549.—CAPEN, Ool. Birds New Engl., 1883, 86, pl. 19, fig. 1 (Maine, "breeding").—STEARNS, New Engl. Bird-life, ii, 1883, 189.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 326.—BLAKISTON, Amend. List Birds Japan, 1884, 137.—SEEBOHM, Ibis, 1884, 33 (Kuril Islands); 1888, 349 (Great Liakoff Island, Siberia, breeding; descr. eggs); 1892, 25 (Helgoland); Hist. Brit. Birds, iii, 1885, 85, pl. 27, figs. 7-9 (eggs); Geog. Distr. Charadriidae, 1887, pp. xxiii, 338, fig.; Birds Japanese Emp., 1890, 318.—MURDOCH, Rep. Exped. Point Barrow, 1885, 115 (breeding at Point Barrow, Alaska).—TATT, Ibis, 1887, 385 (Portugal, Sept. to Nov.).—BULLER, Birds New Zealand, 2d ed., ii, 1888, 30.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 50.—BRUSINA, Orn. Croatica, 1890, 88.—WALTHER, Journ. für Orn., 1890, 238, 241, 242, 244, 247, 249 (e. Spitzbergen).—CAMPBELL-ORD, Ibis, 1891, 294 (Outer Hebrides).—BUCKLEY and HARVIE-BROWN, Vertebr. Fauna Orkney Is., 1891, 210 (rare visitant).—SCLATER, Bull. Brit. Orn. Club, i, no. x, 1893, p. lv (Chile); Ibis, 1893, 569 (Chile).—PEARSON (H. J. and C. E.), Ibis, 1895, 245, 248 (Iceland).—POYNTING, Eggs Brit. Birds, pt. iii, 1896, 91, pl. 21.—TREVOR-BATTYE, Ibis, 1897, 589 (Spitzbergen).—POPHAM, Ibis, 1897, 103 (Golchika, Yenesei River, Siberia; descr. eggs); 1898, 513 (Yenesei River, n. of Gochika).—CLARKE (W. E.), Ibis, 1899, 46 (Whale Point Harbor, King Ludwig Islands, and Ryk-ys Islands, Spitzbergen, breeding).—SCHALOW, Journ. für Orn., 1895, 470 (w. Greenland, breeding; descr. eggs); 1899, 385 (Spitzbergen).—NICOLL, Ibis, 1894, 50 (Valparaiso Bay, Chile, Feb., abundant).—HARTERT and GRANT, Novit. Zool., xii, 1905, 107 (San Miguel, Azores).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 365; Check List, 3d ed., 1910, 107.—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 143 (Lake View, Kansas, Nov. 5, 1905).—GRINNELL, Pacific Coast Avifauna, no. 11, 1915, 48 (coast California, common migrant).
- P[halaropus] fulicarius* GRAY, Gen. Birds, iii, 1848, 586.—GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 224.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 125 (n. e. Illinois, rare migrant).—COUES, Key N. Am. Birds, 2nd ed., 1884, 614.
- [*Phalaropus*] *fulicarius* LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 295 (vicinity New York City).—GRAY, Hand-list, iii, 1871, 55, no. 10,360.—COUES, Key N. Am. Birds, 1872, 248.
- Phalaropus fulicaria* KAUP, Thierr., ii, pt. i, 1836, 320.
- Phalaropus fulicarius* KENNICOTT, Trans. Ills. Agric. Assoc., i, 1855, 538 (Illinois).
- Crymophilus fulicarius* STEJNEGER, Auk, ii, April, 1885, 183; Bull. U. S. Nat. Mus., no. 29, 1885, 140 (Bering Island, Kamchatka); Proc. U. S. Nat. Mus., xiv, 1891, 492 (Japan).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 222.—TURNER, Contr. N. H. Alaska, 1886, 145 (St. Michaels, etc.; habits).—DUTCHER, Auk, iii, 1886, 436 (Shinnecock Bay, Long Island, Sept. 26, 1885).—SMITH (H. M.), Auk, iii, 1886, 482 (near Washington, D. C., 1 spec., Oct., 1885; correction of former error as to identification).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 197 (Humboldt Bay, California, May); Cruise 'Corwin' in 1885 (1887), 99 (Otter Island, Bering Sea, June).—NELSON, Rep. N. H. Coll. Alaska, 1887, 97 (habits, etc.).—WARREN, Birds Penn., 1881, 235.—CHAPMAN, Bull. Am. Mus. N. H., iii, 1891, 132 (Brit. Columbia).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 425 (Franklin Bay, Mackenzie, breeding).—MACKAY, Auk, viii, 1891, 120 (Nantucket Island, Massachusetts, Oct. 25, 1890); ix, 1892, 294-298 (Nantucket Island, May 1, 1892, numerous); xi, 1894, 225 (between Muskeget and

- Tuckernuck islands, Massachusetts, May 2, 1893).—WHITE, Auk, viii, 1891, 233-235 (Gulf of St. Lawrence, May 26-30, 1890, numerous).—MILLER (G. S.), Auk, ix, 1892, 298, 299 (Provincetown Harbor, Massachusetts, May 21-23, 1892, numerous; habits, etc.).—MORRIS, Auk, xi, 1894, 181 (near Chicopee, Massachusetts, Sept. 30, 1893).—CANFIELD, Auk, xii, 1895, 77 (Bridgeport, Connecticut, May 20, 1894).—ELLIOT, N. Am. Shore Birds, 1895, 23, pl. 2.—SHARPE, Handb. Brit. Birds, iii, 1896, pl. 84; Cat. Birds Brit. Mus., xxiv, 1896, 693.—SCHALOW, Zool. Jahrb., Suppl., iv, Heft 3, 1898, 662 (Chile).—WAYNE, Auk, xviii, 1901, 271 (Mt. Pleasant, South Carolina, Dec. 4, 1900).—HENSHAW, Birds Hawaiian Is., 1902, 95 (Kauai, 1 spec., spring).—HARTERT, Ibis, 1904, 424 (mouth of Lena River, Siberia).—SNOW, Auk, xxiii, 1906, 106 (near Lawrence, Kansas, Nov. 5, 1905).—DYCHE, Auk, xxiii, 1906, 106 (near Lawrence, Kansas, Nov. 5, 1905).—DABBENE, Orn. Argentina, 1910, 222 (s. Patagonia).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 57, in text (at sea, lat. 7° 24' N., long. 103° 52' W., Aug. 18, 1905, 3 specs.).
- [*Crymophilus*] *fulicarius* RIDGWAY, Man. N. Am. Birds, 1887, 144.
- [*Crymophilus*] *fulicarius* SHARPE, Hand-list, i, 1899, 167.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 75 (Iceland; St. George Island, Pribilof group; Kamchatka; etc.).
- [*Phalaropus*] *lobatus* (not *Tringa lobata* Linnæus) TUNSTALL, Orn. Brit., 1771, 3.—LATHAM, Ind. Orn., Suppl., ii, 1790, 776.
- Phalaropus lobatus* VIGORS, Zool. Voy. 'Blossom,' 1839, 28.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 82; Hist. Brit. Birds, iv, 1852, 284.—YARRELL, Hist. Brit. Birds, iii, 1843, 43.—HEWITSON, Eggs Brit. Birds, ii, 1846, pl. 92, fig. 1.—JARDINE, Contr. Orn., 1849, 84 (Bermudas, 1 pair, March).—THOMPSON, Birds Ireland, ii, 1849, 336.—HURDIS, Jardine's Contr. Orn., 1850, 9 (Bermudas, March).—BLYTH, Ibis, 1859, 464 (Calcutta, May 11, 1846).—JONES, Nat. in Bermuda, 1859, 47.—GRAY (R.), Birds West Scotland, 1871, 327.—SMITH (H. M.), Auk, iii, 1886, 140 (near Washington, D. C., 1 spec., Oct., 1885).—TREAT, Auk, iv, 1887, 78 (near Hartford, Connecticut, Sept. 27, 1886).
- (?) [*Tringa*] *glacialis* GMELIN, Syst. Nat., i, pt. ii, 1789, 675 (near Icy Cape, Siberia; based on *Plain Phalarope* Pennant, Arctic Zool., ii, 1785, 495).—TURTON, Syst. Nat., i, 1806, 406.
- (?) [*Phalaropus*] *glacialis* LATHAM, Index Orn., ii, 1790, 776.
- (?) *Phalaropus glacialis* RICHARDSON, Fauna Bor.-Am., ii, 1831, 409, footnote (descr.).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 247.
- [*Phalaropus*] *hyperboreus* (not *Tringa hyperborea* Linnæus) LATHAM, Index Orn., ii, 1790, 776, part (supposed female).
- Phalaropus hyperborea* WILSON, Am. Orn., ix, 1814, 75, pl. 73, fig. 4.
- Phalaropus rufus* BECHSTEIN, Naturg. Deutschl., 2nd ed., iv, 1809, 381 (Germany; Hungary; n. Europe; Asia; America).—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 205.—BREHM, Vög. Deutschl., 1831, 678.—KJÆRBÖLLING, Orn. Dan., 1852, pl. 51A, fig. 2; Suppl., 1852, pl. 33, figs. 3, 4.—WEIZ, Proc. Bost. Soc. N. H., x, 1866, 268 (Labrador).—HOMER, Journ. für Orn., 1870, 424 (s. Siberia).—SCHALOW, Journ. für Orn., 1891, 261 (Kuril Islands).
- Crymophilus rufus* VIEILLOT, Nouv. Dict. d'Hist. Nat., viii, 1817, 521; Gal. Ois., ii, 1826, 176, pl. 270.
- Phalaropus platyrhynchos* TEMMINCK, Man. d'Orn., 1815, 459 (n. e. Europe; n. Asia; America; accidental in England, Germany, and Switzerland).
- Phalaropus platyrhynchos* WERNER, Atlas, Pinantipedes, 1827, pl. 4.—BREHM, Vög. Deutschl., 1831, 679.—NAUMANN, Vög. Deutschl., viii, 1836, 255, pl. 206.—GOULD, Birds Europe, iv, 1837, pl. 337 and text.—KJÆRBÖLLING, Naumannia, i, 1850, 48 (Denmark).—PASSLER, Journ. für Orn., 1853, 310.—

- MARTIN, Zool. Gart., 1871, 157.—FALLON, Ois. Belg., 1875, 189.—GÄTKE, Vogelw. Helgoland, 1891, 528.
- Phalaropus platyrhynchus* TEMMINCK, Man. d'Orn., ii, 1820, 712; iv, 1840, 446.—FOX, Newc. Misc., 1827, 118.
- Phalaropus platyrhynchus* REINHARDT, Journ. für Orn., 1854, 441 (Greenland).
- Phalaropus griseus* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 34 (Yorkshire, England).
- Ph[alaropus] rufescens* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. lxxii, 212 (based on *Le Phalarope roussatre* Brisson, Orn., vi, 1760, 20).
- Phalaropus rufescens* SCHLEGEL, Rev. Crit., 1844, p. xciv; Vog. Nederl., 1854, pl. 239.—MIDDENDORFF, Reis. Sibir., Zool., 1851, 216 (Taimyr River, breeding; Boganida River).—MÜLLER, Journ. für Orn., 1856, 229 (Provence).—NORDMANN, Journ. für Orn., 1864, 374 (Finland).—DROSTE, Journ. für Orn., 1868, 406 (e. Friesland).—TACZANOWSKI, Bull. Soc. Zool. France, i, 1876, 251; ii, 1877, 157 (Poland); Orn. Faun. Vost. Sibir., 1877, 55.—BOGDANOW, Consép. Av. Imp. Ross., 1884, 81.
- Phalaropus rufescens* ZANDER, Archiv Mecklenb., xv, 1861, 119.
- Phalaropus platyrostis* NORDMANN, in Démidoff, Voy. Russ. Mérid., iii, 1840, 250.
- Phalaropus cinereus* FRITSCH, Vog. Eur., 1871, pl. 3g, fig. 3.
- Lobipes wilsonii?* (not *Phalaropus wilsoni* Sabine) BLAKISTON and PEYER, Trans. Asiatic Soc. Japan, viii, 1880, 196; x, 1882, 113 (Japan).

Genus LOBIPES Cuvier.

Lobipes CUVIER, Règne Anim., i, 1817 (1816), 495. (Type, by original designation, *Tringa hyperborea* Linnæus = *T. lobata* Linnæus.)

Small Phalaropes (wing 102–113 mm.) with slender, acuminate-subulate bill, nostrils close to loreal feathering, lateral membrane of toes broad and distinctly scalloped, and web between outer and middle toes extending to or beyond second articulation of the latter.

Bill slender and pointed (acuminate-subulate), narrower than deep subterminally, the exposed culmen a little longer than tarsus; lateral grooves of maxilla narrow, extending halfway (approximately) to tip; nostril basal (close to loreal feathering), small, longitudinally linear. Wing long and pointed, the longest primary (outermost, which is only slightly longer than the next) extending decidedly beyond tip of longest tertials. Tail nearly half as long as wing moderately graduated. Tarsus as long as middle toe without claw or slightly longer, much compressed, the acrotarsium covered by a continuous single series of transverse scutella; outer toe nearly long as middle toe, the inner toe slightly shorter than outer toe; lateral membrane of anterior toes broad, distinctly (but moderately) scalloped, the web between outer and middle toes extending to or beyond second articulation of middle toe.

Coloration.—Under parts white, upper parts slaty or dusky; adults in summer with sides of neck and whole chest cinnamon-rufous, this more restricted and less distinct in male.

Range.—Circumpolar regions, south in winter to Guatemala, Bermudas, Celebes, Aru Islands, Hawaiian Islands, etc. (Monotypic.)

LOBIPES LOBATUS (Linnaeus).

NORTHERN PHALAROPE.

Adult female in summer.—Upper parts dull dark slate-gray or blackish slate, the back and scapulars striped with buff or ochraceous; greater wing-coverts broadly tipped with white; chin, throat, and under parts of body immaculate white; sides of neck, foreneck, and chest plain cinnamon-rufous; bill black; iris dark brown; legs and feet bluish gray, the toes with joints darker gray or dusky.

Adult male in summer.—Similar to the female, but slightly smaller and decidedly duller in coloration, the dusky grayish of upper parts duller and less uniform, the cinnamon-rufous of neck almost confined to sides of neck, the chest mixed white and grayish, more or less tinged with cinnamon-rufous.

Winter plumage (sexes alike).—Forehead, superciliary stripe, sides of head and neck, and under parts, white, the sides of chest washed or clouded with pale gray; pileum grayish, the feathers with dusky shaft-streaks and whitish margins; a blackish spot in front of eye; suborbital and auricular regions mixed dusky and grayish white; upper parts chiefly gray.

Young.—Pileum dusky, with or without streaks; back and scapulars blackish, distinctly margined with buff or ochraceous; middle wing-coverts margined with buff or whitish; auriculars dusky; forehead, lores, supra-auricular stripe, and under parts white, the chest and sides of breast sometimes suffused with dull brownish.

Downy young.—General color of upper parts tawny or brownish tawny (sayal brown); crown and occiput mostly black (sometimes wholly so), or heavily clouded or marbled with black; a black post-auricular spot or patch; rump with a broad median stripe of black, edged along each side by a narrow stripe of white or pale buffy, the remaining upper parts more or less spotted or marbled with blackish; sides of head (except as described), chin, throat, and foreneck pale cinnamon or buff, the remaining under parts dull white, shaded posteriorly with pale grayish brown.

Adult male.—Wing, 102–109 (105.1); tail, 46–50 (48.3); culmen, 21–23 (22); tarsus, 18–20 (19.2); middle toe, 18–20.5 (19.5).^a

^a Eleven specimens.

Adult female.—Wing, 105–116 (110.2); tail, 48.5–52.5 (50.2); culmen, 20–24 (22.4); tarsus, 18.5–21 (19.8); middle toe, 18–20 (19.1).^a

Breeding in circumpolar regions, from western Alaska to eastern Siberia; in North America, from northern Alaska, Melville Island, central Greenland, etc., to Pribilof and Aleutian islands, valley of upper Yukon River, northern Mackenzie, southern James Bay, and northeastern Labrador; in Europe and Asia breeding in Iceland, Shetland, Orkney, and Faro islands, Outer Hebrides, and northern Norway to northeastern Siberia and Commander Islands, Kamchatka; migrating southward as far as Peru (Chorillos; Tumbes), Patagonia, Galápagos Archipelago (Albemarle, Indefatigable, James, and Narborough islands), New Guinea (at sea near; Aru Islands), New Britain, Bismarck Archipelago, etc.; occurs (occasionally at least) in Hawaiian Islands (Kauai) and Bermudas; frequent during migration in interior of United States, Mexico, and Central America.

[*Tringa*] *lobata* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 148, 824 (Hudson Bay; based on *Tringa fusca*, etc., Edwards, Nat. Hist., i, 1750, 46, pl. 26, 143, pl. 143); ed. 12, 1, 1766, 249.—BRÜNNICH, Orn. Bor., 1764, 51.—GMELIN, Syst. Nat., i, pt. ii, 1789, 674.—TURTON, Syst. Nat., i, 1806, 406.

Tringa lobata FABRICIUS, Fauna Groenlandica, 1780, 109.—BODDAERT, Tabl. Pl. Enl., 1783, 48 (Pl. Enl., pl. 766).

Phalaropus lobatus SALVADORI, Faun. Ital., Ucc., 1871, 210.—BRÜGGEMANN, Abh. nat. Ver Bremen, v, 1876, 96 (Celebes).—ADAMS, Ibis, 1878, 438 (St. Michaels, Alaska; habits).—TURNER, Auk, ii, 1885, 157 (Nearer Islands, Aleutian chain, abundant visitant); Contr. N. H. Alaska, 1886, 146 (St. Michaels, etc., breeding; habits).—STEJNEGER, Auk, ii, 1885, 183; Bull. U. S. Nat. Mus., no. 29, 1885, 139 (Bering Island, Kamchatka, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 223.—NELSON, Rep. N. H. Coll. Alaska, 1887, 99 (habits, etc.).—THORNE, Auk, iv, 1887, 336 (Fort Keogh, Montana, 4 specs., June 18)—WARREN, Birds Penn., 1888, 235.—MERRIAM, North Am. Fauna, no. 3, 1890, 88 (Walker Lake, Arizona, Aug. 19).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1891, 479 (Manitoba).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos, Peru).—SCHALOW, Journ. für Orn., 1895, 470 (w. Greenland).—ELLIOT, N. Am. Shore Birds, 1895, 27, pl. 3.—COOKE, Bull. 56, Col. Agric.

• Eleven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Alaska.....	105.1	48.6	22	19	19.5
Four adult males from Nevada (Washoe Lake, May 30).....	105.1	47.6	22	19.6	19.5
FEMALES.					
Two adult females from Bering Island, Kamchatka.....	110	51	20	19	18.5
Four adult females from Alaska.....	110.4	50.4	22.7	20.2	19.2
Three adult females from Nevada (Washoe Lake, May 30).....	111.8	50.2	23.3	20.5	19.7
One adult female from Lower California (San Rafael, May 12).....	110	49	23.5	20	19.5
One adult female from Greenland.....	105	49	21.5	18.5	18

- Exp. Sta., 1900, 199 (Middle Park, 7,000 ft., May 26; Breckenridge in migration).—ROTHSCHILD and HARTERT, Novit. Zool., viii, 1901, 143 (at sea near New Guinea).—BIGELOW, Auk, xix, 1902, 28 (coast n. e. Labrador, breeding).—HENSHAW, Birds Hawaiian Islands, 1902, 96 (Kauai, 1 spec., winter).—WAYNE, Auk, xxii, 1905, 397 (near Charleston, South Carolina, June 3, 1903!).
- P[halaropus lobatus]* BONAPARTE, Obs. Nom. Wilson's Am. Orn., 1826, [197].—RIDGWAY, Man. N. Am. Birds, 1887, 145.—BRYAN, Key Birds Hawaiian Group, 1901, 25 (Kauai).
- Phalaropus lobata* WILSON, Am. Orn., ix, 1814, 72, pl. 73, fig. 3.
- Phalaropus* *lobatus* SWAINSON, Fauna Bor.-Am., 1831, 405, footnote (crit.).
- Phalaropus* (*Lobipes*) *lobatus* PALMÉN, 'Vega'-Exped., 1887, 332 (n. e. Siberia).
- Lobipes lobatus* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 330.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 315; Check List, 3rd ed., 1910, 107.—CARRIKER, Ann. Carnegie Mus., vi, 1910, 423 (Desamparados, near San José, Costa Rica).—TAYLOR, Univ. Calif. Pub. Zool., vii, 1912, 358 (Quinn River Crossing, Humboldt Co., Nevada, large flock, May 19; 4 specs. May 29).—GRINNELL (J.), Pacific Coast Avifauna, no. 11, 1915, 48 (common migrant in California).
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- [*Phalaropus*] *hyperboreus* TUNSTALL, Orn. Brit., 1771, 3.—LATHAM, Index Orn., ii, 1790, 775, part (male only).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 295 (vicinity New York City).—GRAY, Hand-list, iii, 1871, 55, no. 10361.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.—SHARPE, Hand-list, i, 1899, 167.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 75 (Dueñas, Guatemala; etc.).
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- Phalaropus (Lobipes) hyperboreus* MARTENS, Journ. für Orn., 1859, 220 (Bermudas).
- Phalaropus hyperboreus* REINHARDT, Journ. für Orn., 1854, 441 (Greenland).
- Phalaropus hyperboreus* PEABODY, Rep. Orn., Mass., 1839, 376.
- Lobipes hyperboreus* STEPHENS, Shaw's Gen. Zool., xii, pt. 1, 1824, 169.—CUVIER, Règne Anim., 2nd ed., i, 1829, 532.—LESSON, Traité d'Orn., 1831, 563.—BREHM, Vog. Deutschl., 1831, 676, pl. 35, fig. 4.—MINÉTIÉRIS, Cat. rais. Cauc., 1832, 52 (Caspian Sea; Lenkoran, June).—KAUP, Thierr., ii, pt. i, 1836, 323.—BONAPARTE, Geog. and Comp. List, 1838, 54; Compt. Rend., xxxviii, 1854, 664 (Nicaragua).—AUDUBON, Synopsis, 1839, 240; Birds Am., 8vo ed., v, 1842, 295, pl. 340.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 84; Hist. Brit. Birds, iv, 1852, 291.—SELYS-LONGCHAMPS, Faune Belge, 1842, 124.—GRAY, List Birds Brit. Mus., iii, Gallæ, 1844, 108.—GIRAUD, Birds Long Is., 1844, 248.—BREWER, Proc. Bost. Soc. N. H., iv, 1854, 326 (Europe; America).—PUTNAM, Proc. Essex Inst., i, 1856, 230 (Massachusetts).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 288 (Bermudas).—BLYTH, Ibis, 1859, 464 (Madras, India); 1867, 169 (Aru Islands).—SWINHOE, Ibis, 1861, 412 (Amoy); 1863, 415 (Formosa, Nov., March); 1870, 363 (Hainan; Luichow Peninsula, April); 1875, 455 (Hakodate, Japan); Proc. Zool. Soc. Lond., 1871, 406 (China); 1863, 315 (Amur-land).—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 289.—DECLAND and GERBE, Orn. Eur., ii, 1867, 239.—COUES, Proc. Essex Inst., v, 1868, 292 (New England); Check List, 1873, no. 410; 2nd ed., 1882, no. 603; Birds Northwest, 1874, 469; in Elliott's Affairs in Alaska, 1875, 180 (Pribilof Islands, breeding); Bull. Nutt. Orn. Club, iii, 1878, 40 (near Morgantown, North Carolina; no date); Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 637 (Rocky Mountains, Montana, lat. 49°, Aug. 16).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 290 (Yukon River, Alaska, breeding).—FRITSCH, Journ. für Orn., 1871, 385 (Bohemia).—WALDEN, Trans. Zool. Soc. Lond., viii, 1872, 97 (Celebes).—TACZANOWSKI, Journ. für Orn., 1873, 102 (s. Siberia); 1875, 256 (Ussuri region).—ELLIOTT, Rep. Fur Seal Is. (Yukon and Anderson Rivers, Alaska, breeding); Mon. Pribylov Group, 1882, 129 (breeding).—GOULD, Birds Great Brit., iv, 1873, pl. 83 and text.—HANCOCK, Birds Northumb. and Durham, 1874, 123.—ADAM, Stray Feath., ii, 1874, 338 (Sambhur, India).—SALVADORI, Ucc. Borneo, 1874, 321; Orn. Papuasias, etc., iii, 1882, 311; Elench. Ucc. Ital., 1887, 216; Agg. Orn. Papuasias, iii, 1891, 201.—DALL, Proc. Calif. Ac. Sci., v, 1874, 274 (Kyska Island, Aleutians, June 30).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 46 (Ventosa Bay, Oaxaca, Oct.).—DAVID and OUSTALET, Ois. Chine, 1877, 482.—BUTLER, Stray Feath., v, 1877, 290 (Mekran coast); Cat. Birds Sind, etc., 1879, 64; Cat. Birds Bombay Pres., 1880, 109.—BLAKISTON and PRYER, Ibis, 1878, 221 (Yezo, Japan).—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 197 (Fort Klamath, Oregon; no date).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. 564); Nom. N. Am. Birds, 1881, no. 564.—DREW, Bull. Nutt. Orn. Club,

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- [*Lobipes*] *hyperboreus* COUES, Key N. Am. Birds, 1872, 248.
- [*Iobipes*] *hyperboreus* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 125 (n. e. Illinois, rare migrant, May, Sept., Oct.).—COUES, Key N. Am. Birds, 2nd ed., 1884, 613.
- [*Tringa*] *fusca* GMELIN, Syst. Nat., i, pt. ii, 1789, 675 (America; based on *Phalaropus fuscus* Brisson, Orn., v, 1760, 18; Coot-footed *Tringa* Edwards, Nat. Hist., i, 1750, 46, pl. 46; *Brown Phalarope* Pennant, Arctic Zool., ii, 1785, 495).—TURTON, Syst. Nat., i, 1806, 405, 406.
- [*Phalaropus*] *fuscus* LATHAM, Index Orn., ii, 1790, 776.
- Phalaropus fuscus* VIEILLIOT, Nouv. Dict. d'Hist. Nat., xxv, 1817, 480.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 239.
- Phalaropus cinereus* MEYER and WOLF, Taschenb. Deutsch. Vogelf., ii, 1810, 417 (Germany, migrant).—ROUX, Orn. Provenç, 1825, pl. 337.—SCHLEGEL, Rev. Crit., 1844, p. xciv.—MIDDENDORFF, Reis. Sibir., Zool., 1851, 215 (s. e. Siberia, breeding; Taimyr River, lat. 73½° N., June; Boganida River, lat. 70° N., June).—FRITSCH, Journ. für Orn., 1853, 370.—KJAERBÖLLING, Orn. Danm., 1854, pl. 51 A. fig. 1; Suppl., pl. 33, figs. 1, 2.—MÜLLER, Journ. für Orn., 1856, 229 (Provence).—SCHRENCK, Reis. Amurland, 1859, 418 (Komar River, Sept.).—ZANDER, Archiv Mecklenb., xv, 1861, 118.—ALTUM, Journ. für Orn., 1863, 120 (Munsterland).—PREN, Journ. für Orn., 1864, 65 (Poel, Germany).—WEIZ, Proc. Boet. Soc. N. H., x, 1866, 268 (Labrador).—DROSTE, Journ. für Orn., 1866, 390 (Borkum); 1868, 406 (e. Friesland).—HOMER, Journ. für Orn., 1870, 424 (e. Siberia).—HEUGLIN, Ibis, 1872, 63 (Novaya Zemlya); 1872, 119 (Waigats).—FINSCH, Verh. z.-b. Ges. Wien, xxii, 1872, 253, 272 (at sea off Korea); Ibis, 1877, 78 (Ob River, Siberia).—ADAMS, Ibis, 1878, 438 (Norton Sound, Alaska).—IRBY, Ibis, 1883, 187 (Santander, Spain, Dec.).—BOGDANOW, Consp. Av. Imp. Ross., 1884, 80.—RADDE, Orn. Caucas., 1884, 425 (Lenkoran; Tiflis).
- [*Phalaropus*] *cinereus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, p. lxxiii, 212.
- Phalaropus vulgaris* BECHSTEIN, Orn. Taschenb., ii, 1803, 317, plate (n. Europe; n. Asia; N. America).
- Phalaropus williamsii* SIMMONDS, Trans. Linn. Soc., viii, 1807, 264 (Orkney Islands).
- Phalaropus ruficollis* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 203 (Caspian Sea).
- Phalaropus cinerascens* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 204 (Siberia; Russia, rare).
- Phalaropus angustirostris* NAUMANN, Vög. Deutschl., viii, 1836, 240, pl. 205 (n. Europe; n. Asia; North America); Naumannia, i, 1850, 9 (Anhalt, Germany).—TOBIAS, Journ. für Orn., 1853, 214 (Oberlausitz).—PASSLER, Journ. für Orn., 1853, 242 (Lapland), 310.—SEVERTZOV, Turkest. Jevotn., 1873, 69.—FINSCH, Ibis, 1881, 540 (New Britain).—GÄTKE, Vogelw. Helgoland, 1891, 829.
- Phalaropus angustirostris* NAUMANN, Rhea, i, 1846, 23.

Phalaropus fulicarius (not *Tringa fulicaria* Linnaeus) FARRER, Vög. Eur., 1871, pl. 39, fig. 5.—HUME, Ibis, 1872, 469 (Sind, India); Stray Feath., i, 1873, 144, 245 (between Gwadar and Muscat); vii, 1878, 487 (Calcutta).

Phalaropus asiaticus HUME, Stray Feath., i, 1873, 246 (between Gwadar and Muscat).

Lobipes tropicus HUME, i, 1873, 247 (Karachi, India; type now in coll. Brit. Mus.).

Steganopus tricolor (not of Vieillot) BROOKS and COBB, Auk, xxviii, 1911, 467 (Birch Lake, Alberta; see Auk, xxix, 1912, 400).

Genus STEGANOPUS Vieillot.

Steganopus ^a VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1818, 124 (no type indicated, but diagnosis given); xxxii, 1819, 136. (Type, *S. tricolor* Vieillot.)

Holopodius BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1828, 342. (Type, by original designation, *Phalaropus wilsonii* Sabine = *Steganopus tricolor* Vieillot.)

(?) *Amblyrhynchus* (not of Leach, 1814) NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 247. (Type, by original designation, *Tringa glacialis* Gmelin = *Steganopus tricolor* Vieillot ?) ^b

Rather large Phalaropes (wing 116–135 mm.) with slender, slightly depressed bill, basal nostrils, long tarsus (distinctly longer than middle toe with claw), narrowly margined and slightly webbed toes, and double-emarginate tail.

Bill about as long as tarsus, slender, slightly depressed, with lateral outlines nearly parallel; nostril basal (close to loreal antia), narrow, the lateral groove of maxilla indistinct. Wing long and pointed, the longest primary (outermost) extending much beyond tips of longest tertials. Tail between one-third and one-half as long as wing, double-emarginate. Tarsus decidedly longer than middle toe with claw, much compressed, the acrotarsium covered with a continuous series of narrow transverse scutella, the planta tarsi also transversely scutellate; unfeathered portion of tibia much longer than first phalanx of middle toe, transversely scutellate before and behind; inner toe decidedly shorter than middle toe, the outer toe not decidedly shorter than inner; lateral membrane of anterior toes narrow, shallowly or indistinctly scalloped, the web between outer and middle toes not extending to second articulation of the latter.

Coloration.—Under parts white; adult female in summer with forehead and crown pale bluish gray, a black stripe on side of head passing into rich chestnut on lower neck; adult male similar but coloration much duller.

Range.—Temperate North America, chiefly west of Mississippi River, south in winter to Chile, Argentina, and Falkland Islands. (Monotypic.)

^a *Steganopus*, planipes. (Vieillot.)

^b *Tringa glacialis* Gmelin (based on *Plain Phalarope* Pennant, Arctic Zool., ii, 495) is not identifiable with certainty. It has usually been considered to be the young of *Phalaropus fulicarius*, but I agree with Doctor Coues (Birds of the Northwest, 467, footnote) in considering it more likely the young of *Steganopus tricolor*.

STEGANOPUS TRICOLOR Vieillot.

WILSON'S PHALAROPE.

Adult female in breeding plumage.—Forehead and crown pale bluish gray, the former with a blackish line along each side; occiput and nape white, passing into bluish gray or slate-gray on back and scapulars; stripe on side of head, chiefly behind eye, and continued down side of neck, black, passing on lower neck into rich dark chestnut, this continued backward, more or less brokenly, along each side of interscapular region, the outer portion of the scapular region also with a stripe of chestnut; short stripe from above lores to above eyes (not extending to bill), suborbital and rictal regions, chin and throat immaculate white; foreneck and chest soft buffy cinnamon, deeper laterally and posteriorly, and fading gradually into creamy buff on breast; rest of under parts immaculate white; wings brownish gray, the coverts and tertials margined with paler; rump brownish gray; upper tail-coverts white, the longer feathers marked more or less with mouse gray subterminally; tail mouse gray, the lateral feathers irregularly barred on the inner web and narrowly tipped with white; bill black; iris dark brown; legs and feet black.

Adult male in breeding plumage.—Smaller and much duller in color than the adult female, the beautiful pattern and richly contrasted colors of the latter but faintly indicated.

Winter plumage.—Upper parts plain light gray, except upper tail-coverts which, together with superciliary stripe and entire under parts, are white, the chest and sides of breast faintly tinged with pale gray.

Young.—Crown, back, and scapulars dusky, the feathers conspicuously margined with buff; wing-coverts grayish brown, margined with pale buff or whitish; upper tail-coverts, superciliary stripe, and lower parts white, the neck tinged with buff.

Downy young.—General color bright cinnamon-buff or tawny-buff, paler beneath, the abdomen nearly white; occiput and nape with a distinct median streak of black, on the former branching laterally into two narrower irregular lines; lower back and rump with three broad black stripes; flanks with a black spot and caudal region crossed by a broad subterminal bar of black.

Adult male.—Wing, 116–125 (121.1); tail, 48–54 (51.2); exposed culmen, 28–31 (30.5); tarsus, 28.5–33 (30.1); middle toe, 22–25 (24).^a

^a Ten specimens.

Adult female.—Wing, 130–137.5 (132.6); tail, 52.5–65 (55.9); exposed culmen, 31–36 (33); tarsus, 30.5–33 (31.7); middle toe, 24.5–26.5 (25.3).^a

Breeding from central Washington, central Alberta, Saskatchewan (north to lat. 55°), Lake Winnipeg, etc., southward to eastern California (Tulare Lake; Lake Tahoe; Lower Klamath Lake), Nevada (Soda Lake, Carson Desert; Humboldt Co.), Utah (Salt Lake Valley), southern Colorado, southern Kansas (Meade Co.), northern Iowa, northern Illinois, northwestern Indiana, and Wisconsin; migrating southward through Mexico (Valley of Mexico; Xochimilco, Ixtapalapa, Tlalpám, and Laguna de Chapulco, Puebla; Jeres, Zacatecas; Tres Marias Islands, Tepic), Guatemala (Lake of Dueñas), etc., to Chile (Valparaiso Bay; Lake Quintero), Argentina (Barracas al Sud, Buenos Aires; Calchaquies, Tucumán; Mendoza; Misiones; Chubut Valley, Patagonia), Falkland Islands, and Galápagos Archipelago (Albemarle Island); occasional (sometimes locally numerous) along Pacific coast, from southern British Columbia to Lower California; occasional during migration in eastern United States and Canada (Ontario, Quebec, Nova Scotia, Massachusetts, Rhode Island, Long Island, New York, New Jersey, and South Carolina); accidental in England (Leicestershire).

Phalaropus lobatus (not *Tringa lobata* Linnaeus) WILSON, Am. Orn., ix, 1814, 72, pl. 73, fig. 3.—ORD, ed. Wilson's Am. Orn., ix, 1825, 72, pl. 73, fig. 3.—HARTLAUB, Index Azara's Apunt., 1847, 25.

Steganopus tricolor VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 136 (Paraguay; based on *Chorlito tarso comprimeido* Azara, Apunt. Parag., iii, 1803, 327).—WHITAKER, Proc. Zool. Soc. Lond., 1886, 297 (Leicestershire, England; accidental).—RIVES, Auk, iv, 1887, 73 (Newport, Rhode Island, 1 spec., Sept. 13, 1886).—DUTCHEE, Auk, v, 1888, 177 (Shinnecock Bay, Long Island, 1 spec., Sept. 13, 1887).—ELLIOT, N. Am. Shore Birds, 1895, 30, pl. 4.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 705.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xiv, 1897, 126; Check List, 3rd ed., 1910, p. 108.—STONE,

^a Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Illinois.....	116	51	30	28.5	22
One adult male from Wyoming.....	119	50	31	29.5	24
One adult male from Montana.....	121	51	28	30.5	24.5
One adult male from Nevada.....	119	50	31	33	24
Two adult males from Arizona.....	122.5	50.2	30.5	30.5	24.7
Four adult males from California (San Diego County).....	122.7	52.5	30	30.1	24.1
FEMALES.					
One adult female from Montana.....	131	56	36	33	26.5
One adult female from Arizona.....	131	53	32	31	25.5
Nine adult females from California (San Diego County).....	133	56.2	32.8	31.6	26.1

- Auk, xv, 1898, 268 (Ocean City, New Jersey, 1 spec., May 19, 1898).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1902, 53 (Ingapirca, Peru).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 395 (Tres Marias Islands; Valley of Mexico; Xochimilco, Ixtapalapa, Tlalpam, and Laguna de Chapulco, Puebla; Jeres, Zacatecas; Lake of Dueñas, Guatemala).—IHERING, Rev. Mus. Paulista, vi, 1904, 844 (Paraguay).—TAYNER, Auk, xxiii, 1906, 335 (Wayne Co., Michigan, May 5 and 12, 1906).—FLEMING, Auk, xxiii, 1906, 448 (Toronto, Ontario, rare migrant).—ROBERTS, in Wilcox's Hist. Becker Co., Minnesota, 1907, 167 (breeding).—TOWNSEND (C. W.), Auk, xxv, 1908, 81 (Salisbury, Massachusetts, 1 spec., Aug. 18, 1907).—GOLDMAN, Condor, x, 1908, 203 (Tulare Lake, California, June).—ALLEN (G. M.), Auk, xxv, 1908, 238 (coast Massachusetts; no data).—KERMODE, Prov. Mus. Victoria, 1909, 36 (Chilliwack, Brit. Columbia).—JONES (L.), Wilson Bull., xxi, 1909, 124 (Oberlin, Ohio, 2 specs., May 10 and 14, 1899).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 251 (Barracas al Sud, Argentina, Sept., Oct.).—DABBENE, Orn. Argentina, 1910, 222 (Chubut, Patagonia; Calchaquies, Tucuman, 4,000 meters; Mendoza; Misiones; Barracas al Sud, Buenos Aires).—SAUNDERS, Auk, xxviii, 1911, 34 (Gallatin Co., Montana, breeding).—CHAMBERLAIN (B.), Auk, xxviii, 1911, 109 (Sullivan Island, South Carolina, 1 spec., Sept. 7, 1910).—BOWLES, Auk, xxviii, 1911, 171 (Santa Barbara, California, numerous summer of 1910).—GRANT (C. H. B.), Ibis, 1911, 467 (Bolivia, upper Rio Paraguay, Oct. 15).—TAYLOR, Univ. Calif. Pub. Zool., vii, 1912, 359 (Humboldt Co., Nevada, breeding; habits).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 57 (Albemarle Island, Galapagos, Nov. 3, 1905, 3 specs.).—HATHAWAY, Auk, xxx, 1913, 551 (Quanochohtaug, Rhode Island, Aug. 28, 1909).—VISHNER, Auk, xxx, 1913, 566 (Sanborn Co., South Dakota, breeding).—BERTONI, Fauna Paraguaya, 1914, 39. —GRINNELL (J.), Pacific Coast, Avifauna, no. 11, 1915, 48 (breeding at Lake Tahoe, Lower Klamath Lake, etc., California).
- [*Steganopus*] *tricolor* SHARPE, Hand-list, i, 1899, 167.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 75 (Valparaiso and Lake Quintero, Chile; etc.).
- Phalaropus tricolor* STEJNEGER, Auk, ii, April, 1885, 183.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1896, no. 224.—SETON, Auk, iii, 1886, 151 (Long Lake, Lake Winnipeg, and Moose Mountain, Manitoba, breeding).—DUTCHER, Auk, iii, 1886, 436 (Atlanticville, Long Island, 1 spec., Aug., 1885).—TOWNSEND, Proc. U. S. Nat. Mds., x, 1887, 198 (w. Lassen Co., California, June).—GOSS, Auk, iv, 1887, 8 (Meade Co., Kansas, breeding; nesting habits).—BERLEPSCH, Journ. für Orn., 1887, 126 (Paraguay).—WARREN, Birds Penn., 1888, 235.—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1891, 497 (Manitoba).—MERRIAM, N. Am. Fauna, no. 5, 1891, 91 (Marsh Valley, s. e. Idaho, June 30).—COBEAUX, Ottawa Nat., 1900, 26 (s. Saskatchewan, breeding).
- P[halaropus] tricolor* RIDGWAY, Man. N. Am. Birds, 1887, 145.
- Phalaropus wilsonii* SABINE, in Franklin's Narr. Journey Polar Sea, i, 1823, App., 691 (Cumberland House, Saskatchewan).—BONAPARTE, Ann. Lyc. N. Y., ii, pt. i, 1826, 159; pt. ii, 1826, 342.—LESSON, Man. d'Orn., ii, 1828, 280; *Traité d'Orn.*, 1831, 563.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 405, pl. 69 (adult female in summer plumage; Saskatchewan, north to 55° breeding).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 245.—AUDUBON, Orn. Biog., iii, 1835, 400, pl. 254.—ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., 1837, 193 (Columbia River).—BREWER, Journ. Boet. Soc. N. H., 1837, 437 (Massachusetts).—TOWNSEND (J. K.), Journ. Ac. 40017—19—Bull. 50, pt 8—29

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- Phalaropus wilsoni* SCLATER, Proc. Zool. Soc. Lond., 1864, 179 (near City of Mexico); 1867, 339 (Chile); Bull. Brit. Orn. Union, no. xxi, 1894, p. vi (Falkland Islands); Ibis, 1895, 145 (Falkland Islands).—DRESSER, Ibis, 1866, 35 (s. Texas).—SALVIN, Ibis, 1866, 198 (Guatemala).—COUES, Ibis, 1866, 263 (Colorado River, Arizona).—BREWER, Proc. Bost. Soc. N. H., xvii, 1875, 445 (Mass., rare migrant).—DURNFORD, Ibis, 1877, 42 (Chuput Valley, Patagonia, habits), 198 (Buenos Aires).—BENDIRE, Proc. Bost. Soc. N. H., xix, 1877, 141 (Camp Harney, Oregon, breeding).—SEEBOHM, Geog. Distr. Charadr., 1887, pp. xxiii, 342, figs.—HOLMBERG, Segundo censo Argentina, i, 1898, 568.
- [*Phalaropus*] *wilsoni* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.
- Phalaropus (Holopodius) wilsoni* BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 342; Am. Orn., iv, 1832, 59, pls. 24, 25.—NUTTALL, Man. Orn. U. S. and Can., ii, 1834, 245.
- Holopodius wilsoni* BONAPARTE, Geog. and Comp. List, 1838, 54.
- [*Holopodius*] *wilsonii* GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 224.
- Lobipes wilsonii* STEPHENS, Shaw's Gen. Zool., xii, pt. 1, 1824, 167.—JARDINE, ed. Wilson's Am. Orn., iii, 1832, 190, pl. 73, fig. 3.—AUDUBON, Synopsis, 1839, 241; Birds Am., 8vo ed., v, 1842, 299, pl. 341.—GIRAUD, Birds Long Is., 1844, 246.—PUTNAM, Proc. Essex Inst., i, 1856, 217 (Massachusetts).
- [*Lobipes*] *wilsonii* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois).
- Steganopus wilsonii* COUES, Proc. Ac. Nat. Sci. Phila., 1866, 97 (Colorado River, Arizona, Sept.); Proc. Essex Inst., v, 1868, 292 (New England, rare).
- [*Steganopus*] *wilsonii* COUES, Key N. Am. Birds, 1872, 248.
- Steganopus wilsoni* COUES, Ibis, 1865, 158, in text (Fort Riley, Kansas); Check List, 1873, no. 409; 2d ed., 1882, no. 602; Birds Northwest, 1874, 467; Bull. Nutt. Orn. Club, ii, 1877, 38-43 (habits); Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 636 (Pembina, etc., North Dakota, breeding; Frenchman's Creek, etc., Montana, breeding; habits).—RIDGWAY, Bull. Essex Inst., vii, 1875, 31 (Salt Lake Valley, Utah, breeding); Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. 565); Nom. N. Am. Birds, 1881, no. 565; Orn. 40th Parallel, 1877, 604 (Pyramid Lake, Nevada, May; Great Salt Lake, Utah, June).—HENSEHAW, Zool. Expl. W. 100th Merid., 1875, 451 (Cienega, Arizona, Aug. 20).—KUMLIEN, Field and Forest, ii, 1876, 11, 12 (Wisconsin; breeding habits).—RATHBUN (F. R.), List Birds Centr. N. Y., 1879, 30 (Penn Yan, 1 spec.).—MEARNS, Bull. Nutt. Orn. Club, iv, 1879, 197 (Fort Klamath, Oregon).—JENCKS, Bull. Nutt. Orn. Club, v, 1880, 237 (Newport,

- Rhode Island, 1 spec., Aug. 2, 1880).—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 238 (Point de Monts, Quebec, in fall migration).—DUTCHER, Auk, i, 1884, 33 (Shinnecock Bay, Long Island, 1 spec., Aug. 20, 1883).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 335.—LAWRENCE (N. T.), Auk, ii, 1885, 273 (East River, New York City, 1 spec., Oct. 15, 1879). *S[teganopus] wilsoni* NELSON, Bull. Essex Inst., viii, 1876, 124 (n. e. Illinois, breeding; habits).—COUES, Key N. Am. Birds, 2nd ed., 1884, 612.
- Phalaropus fimbriatus* TEMMINCK, Pl. Col., v (livr. 2, Sept., 1825), pl. 370 ("Sénégal").
- Phalaropus frenatus* VIEILLOT, Gal. Ois., ii, 1826, 178, pl. 271 (New York; coll. Rivoli).—PELZELN, Reise 'Novara,' Vög., 1865, 132 (Chile).
- Lobipes frenatus* CUVIER, Règne Anim., 2nd ed., i, 1829, 532.
- Lobipes incanus* JARDINE and SELBY, Illustr. Orn., i, 1825, pl. 16 (Mexico; coll. W. Jardine; type now in coll. Brit. Mus.).
- Ph[alaropus] stenodactylus* WAGLER, Isis, 1831, 523 (Mexico; winter plumage).
- Lobipes antarcticus* SCLATER, Proc. Zool. Soc. Lond., 1867, 332 (crit.).

Family RECURVIROSTRIDÆ.

THE AVOCETS AND STILTS.

- =*Recurvirostrinæ* BONAPARTE, Saggio distr. Anim. Vertebr., 1831, 59.—CARUS, Handb. Zool., i, 1868, 336.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.—STEJNEGER, Standard Nat. Hist., iv, 1885, 107, in text.
- =*Recurvirostridæ* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 689, 703.—COUES, Key N. Am. Birds, 1872, 247; 2nd ed., 1884, 609.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385; Bull. Ills. State Labr. Nat. Hist., no. 4, 1881, 197; Man. N. Am. Birds, 1887, 146.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 108, 340.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 146; 3rd ed., 1910, 108.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 3.
- =*Himantopodinx* SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, xi, 90, 309; Handlist, i, 1899, xv, 156.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 360.
- >*Phalaropodidæ* BONAPARTE, Saggio distr. Anim. Vertebr., 1831, 59.

Extremely long-legged, long-necked, long- and slender-billed Charadrii with tarsus more than twice as long as middle toe with claw, covered, all round, with small hexagonal scales; bare portion of tibia much longer than middle toe with claw; bill subulate, much longer than head, straight or more or less (sometimes conspicuously) recurved; feet more or less webbed; hallux absent or if present rudimentary; neck more lengthened than in other Charadrii, and plumage of under parts very dense, as in Phalaropodidæ, Laridæ, and other natatorial Charadriiformes.

The Recurvirostridæ agree with the Phalaropodidæ in the density of the plumage on the under parts of the body, and are probably more nearly related to them than to any other of the allied groups. Notwithstanding their excessively long legs they are able to swim with great facility.

The family is partly of tropical or subtropical distribution and few in number as to species. Only three genera are recognized, one

of which is peculiar to Australia. America possesses two genera and four species, each continent having a peculiar species of each genus.

KEY TO THE GENERA OF RECURVIROSTRIDÆ.

- a. Anterior toes all extensively webbed; bill much depressed distally, nearly to quite as long as tarsus.
- b. Bill more or less strongly recurved; hallux present (but very small).
Recurvirostra (p. 436).
- bb. Bill straight; hallux absent. *Cladorhynchus* (extralimital).^a
- aa. Anterior toes cleft nearly to base; bill terete or slightly compressed distally, much shorter than tarsus. (Hallux absent.) *Himantopus* (p. 441).

Genus RECURVIROSTRA Linnæus.

Recurvirostra LINNÆUS, Syst. Nat., ed. 10, i, 1758, 151. (Type, by monotypy, *Recurvirostra avosetta* Linnæus.)

Avocetta BRISSON, Orn., vi, 1760, 538. (Type, "*Avocetta*" = *Recurvirostra avosetta* Linnæus.)

Large Recurvirostridæ (wing more than 200 mm.) with the long, slender, depressed and distinctly recurved bill nearly as long as tarsus, the latter covered, all round, by small, mostly longitudinal, hexagonal scales; anterior toes extensively webbed, and hallux present (though very small).

Bill nearly to quite as long as tarsus, slender, depressed distally, more or less strongly recurved for terminal half, the tip of maxilla attenuated and decurved; nostril sub-basal, longitudinal, in lower part of a distinct lateral groove extending for about one-third to one-half the length of the maxilla. Neck rather long. Wing long and pointed, the longest primary (outermost, two outermost, or, rarely, second from outside) extending considerably beyond tips of elongated tertials. Tail, between one-third and one-half as long as wing, truncate; rectrices 12-14. Tarsus one-third as long as wing or longer, compressed, covered all round with small, mostly longitudinal, hexagonal scales, these larger and more longitudinal in front, smaller laterally; middle toe decidedly less than half as long as tarsus, the lateral toes shorter, the inner toe shorter than the outer; hallux minute, but with a distinct claw; anterior toes webbed, more extensively between outer and middle toes; bare portion of tibia one-third (*R. andina*) to half (*R. americana*) as long as tarsus, the lower portion scaled, like tarsus, the upper portion smooth or with scales indistinct.

^a *Leptorhynchus* (not *Leptorrhynchus* Guérin, 1830) DuBus, Mag. de Zool., v, 1835, pl. 45 (type, *L. pectoralis* DuBus). *Cladorhynchus* Gray, List Gen. Birds, 1840, 69; Gen. Birds, iii, 1849, 577, pl. 155, fig. 1 (type, *Leptorhynchus pectoralis* DuBus).

This genus is intermediate between *Recurvirostra* and *Himantopus*, though nearer to the former. The single species is peculiar to Australia.

Plumage and coloration.—Plumage of head, neck, and under parts dense, gull-like. Under parts, sometimes head and neck also usually also scapulars, immaculate white; upper parts mostly black or dusky; head and neck sometimes cinnamonaceous, at least in part.

Range.—Temperate portions of North America, Europe and Asia, northern Africa, Australia, and Peruvian Andes. (Five species, of which only two are American.)

KEY TO THE AMERICAN SPECIES OF RECURVIROSTRA.

a. Scapulars and tips of greater wing-coverts and secondaries white; longer tertials and tail pale gray; head and neck cinnamonaceous in summer plumage; bill only moderately recurved. (Temperate North America.)

Recurvirostra americana (p. 437).

aa. Scapulars and whole of wing and tail sooty blackish; head and neck pure white in summer plumage; bill very strongly recurved. (Chilean Andes.)

Recurvirostra andina (extralimital).^a

RECURVIROSTRA AMERICANA Gmelin.

AMERICAN AVOCET.

Adults in summer (sexes alike).—Head (except anteriorly), neck, and chest light cinnamon, passing into white on anterior portion of head; outer scapulars, median interscapulars, rump, upper tail-coverts, under parts of body (including under tail-coverts), proximal secondaries, and broad tips to greater wing-coverts white; wings (except proximal secondaries and distal half of greater coverts), inner (proximal) scapulars and adjacent lateral interscapulars brownish black; tail grayish white or very pale gray; axillars and under wing-coverts white; bill black; iris brown;^b legs and feet light grayish blue.

Adults in winter.—Similar to the summer plumage, but head, neck, and chest white, tinged with pale bluish gray, especially on pileum and hindneck.

Young.—Similar to winter adults but hindneck tinged with light cinnamon or tawny, primaries slightly tipped with whitish, and scapulars, etc., tipped or transversely mottled with light cinnamon or tawny.

Adult male.—Wing, 214.5–230 (222.4); tail, 79–90 (83.8); culmen, 75–97 (89.6); tarsus, 85–100 (91.3); middle toe, 38–46.5 (41.9).^c

^a *Recurvirostra andina* Philippi and Landbeck, Anal. Univ. Chile, xix, Nov., 1861, 131; Wiegmann's Archiv für Naturg., xxix, 1863, 121 (Paruncicota, Chile, 16,000 ft.); Taczanowski, Orn. du Pérou, iii, 1886, 384; Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 334, 752.—*Recurvirostris andina* Harting, Ibis, 1874, 257, pl. 9 (monogr.).—*Himantopus andinus* Seeböhm, Ibis, 1886, 232; Geogr. Distr. Charadriidæ, 1888, 236.

^b Not red, as stated by some authorities.

^c Ten specimens.

Adult female.—Wing, 212–226 (217.7); tail, 79–87 (83.1); culmen, 79.5–93 (88.8); tarsus, 85–96 (90.3); middle toe, 37–44 (40.9).^a

Breeding from eastern Oregon, central Alberta (Buffalo Lake), Saskatchewan (Fort Carlton)—formerly to Mackenzie (Great Slave Lake; Mackenzie River)—Manitoba (Winnipeg; Souris River), etc., southward to southern California (Orange Co.), southern New Mexico, southern Texas (Fort Brown; Corpus Christi), northern Iowa, central Wisconsin, etc.; migrating southward over Mexico (Matamoros, Tamaulipas; Alvarado and Córdoba, Vera Cruz; Guadalajara, Jalisco; Oputo, Sonora; Mazatlán, Sinaloa; Zacatecas; Guanajuato) to Guatemala (Chiapám); casual or occasional in eastern United States and eastern Canada, from Ontario and New Brunswick to Florida; also in Cuba, Jamaica, and Barbados.

[*Recurvirostra*] *americana* Gmelin, Syst. Nat., i, pt. ii, 1789, 693 (North America; based on Pennant, Arct. Zool. ii, 1785, 502, pl. 21).—LATHAM, Index Orn., ii, 1790, 787, part (includes *R. novæ-hollandiæ*).—TURTON, Syst. Nat., i, 1806, 419.—GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).—GRAY, Hand-list, iii, 1871, 47, no. 10288.—COUES, Key N. Am. Birds, 1872, 247.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 26.—SHARPE, Hand-list, i, 1899, 154.

Recurvirostra americana Wilson, Am. Orn., vii, 1813, 126, pl. 63, fig. 2.—LEACH, Zool. Misc., ii, 1815, 114, pl. 101.—VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 103.—TEMMINCK, Man. d'Orn., ii, 1820, 592.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 345; Geog. and Comp. List, 1838, 54.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 375 (Saskatchewan, May).—LESSON, Traité d'Orn., 1831, 592.—ORNITHOLOGICAL COMMITTEE, Journ. Ac. Nat. Sci. Phila., vii, 1837, 193 (Columbia River).—AUDUBON, Orn. Biog., iv, 1838, 168, pl. 318; Synopsis, 1839, 252; Birds Am., 8vo ed., vi, 1843, 24, pl. 353.—TOWNSEND (J. K.), Journ. Ac. Nat. Sci. Phila., viii, 1839, 156 (n. w. United States).—GRAY, List Birds Brit. Mus., iii, Grallæ, 1844, 97.—GIRAUD, Birds Long Is., 1844, 269.—GOSSE, Birds Jamaica, 1847, 389.—REICHENBACH,

^a Eleven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Montana.....	225.5	87	94	91.2	43.5
One adult male from Colorado.....	219	86	97	94.5	40.5
One adult male from Utah.....	221	79	80.5	96.5	43.5
Four adult males from southern California (San Diego County).....	222.4	82.5	92.5	94	42.2
One adult male from northern Lower California.....	217	82	88	86	38
One adult male from Vera Cruz (Mirador, winter).....	227	87	79	88	41
FEMALES.					
One adult female from Louisiana.....	224	83	93	96	44
One adult female from Nevada.....	216	83	83	85.3	37
One adult female from northeastern California (Fort Crook).....	226	84	84	90	40.5
Four adult females from southern California (San Diego County).....	214.7	84.5	84.1	89	41.4
Three adult females from northern Lower California.....	215.5	80	85.5	90.3	41.3
One adult female from Arizona-Sonora boundary.....	223	86	91	95	41.5

- Grallatores, 1851, pl. 66, fig. 991.—BAIRD, in Rep. Stansbury's Surv. Great Salt Lake, 1852, 320 (Great Salt Lake Valley); Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Brazos River, Texas); Cat. N. Am. Birds, 1859, no. 517; Rep. Ives' Expl. Col. R., pt. v, 1861, 6.—WOODHOUSE, in Rep. Sitgreaves' Expl. Zuffi and Col. R., 1853, 100.—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico); xi, 1859, 108 (New Mexico).—PUTNAM, Proc. Essex Inst., i, 1856, 230 (Essex Co., Massachusetts).—CABANIS, Journ. für Orn., 1856, 422 (Cuba).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 703.—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba); xvii, 1875, 452 (New Brunswick).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine); Bull. Nutt. Orn. Club, v, 1880, 241 (Quaco, New Brunswick, 3 specs., 1880).—VERRILL, Proc. Essex Inst., iii, 1862, 157 (coast Maine, 1 spec.).—GUNDLACH, Journ. für Orn., 1862, 88 (Cuba; crit.); 1875, 330 (Cuba); Repert. Físico-Nat. Cuba, i, 1866, 357; Orn. Cubana, 1876, 178.—ALBRECHT, Journ. für Orn., 1862, 206 (Jamaica).—BLAKISTON, Ibis, 1863, 130 (Fort Carlton, Saskatchewan; Mackenzie River, rare).—MARCE, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—SCHLEGEL, Mus. Pays-Bas, v, no. 27 (Scolopaces), 1864, 104.—COUES, Ibis, 1865, 158 (Kansas); 1866, 263 (Colorado River, Arizona); Proc. Ac. Nat. Sci. Phila., xviii, 1866, 97 (Fort Whipple, Arizona); xxiii, 1871, 33 (Fort Macon, North Carolina); Proc. Bost. Soc. N. H., xii, 1868, 123 (South Carolina); Proc. Essex Inst., v, 1868, 292 (New England records); Check List, 1873, no. 407; 2nd ed., 1882, no. 600; Birds Northwest, 1874, 460; Bull. U. S. Geol. Surv. Terr., iv, 1878, 635 (Frenchmans Creek, Milk River, etc., Montana, breeding; habits).—SALVIN, Ibis, 1865, 192 (Guatemala); 1866, 198 (Chiapam, Guatemala).—DRESSER, Ibis, 1866, 35 (s. Texas).—MCILWRAITH, Proc. Essex Inst., v, 1866, 92 (Hamilton, Ontario).—LAWRENCE, Ann. Lyc. N. Y., viii, 1866, 295 (vicinity New York City); Mem. Bost. Soc. N. H., ii, 1874, 308 (Rio de Coahuayana, Colima; Mazatlan, Sinaloa).—TURNBULL, Birds E. Penn. and N. J., 1869, 38 (Phila. ed., 29).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 357 (e. Florida, winter); iii, 1872, 171 (Great Salt Lake, breeding); Proc. Bost. Soc. N. H., xvii, 1874, 66 (Yellowstone River, Montana).—STEVENSON, Prelim. Rep. U. S. Geol. Surv. Terr., 1871, 466 (North Platte River, Wyoming).—AIKEN, Proc. Bost. Soc. N. H., xv, 1872, 209 (Arkansas River, Colorado).—MERRIAM, Sixth An. Rep. U. S. Geol. Surv., 1873, 701, 714 (Great Salt Lake, Utah, June 19); N. Am. Fauna, no. 3, 1890, 88 (Little Colorado R., Arizona, Aug. 13); no. 5, 1891, 91 (Saw Tooth Lake, Idaho, Sept.; Henry Fork of Snake River, July).—HARTING, Ibis, 1874, 253 (monogr.; crit.; habits).—NELSON, Proc. Bost. Soc. N. H., xvii, 1875, 342, 348 (Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 12 (Great Salt Lake, Utah); Zool. Expl. W. 100th Merid., 1875, 448 (Provo, Utah, Nov. 26; Alkali Lakes, Colorado, June 21; habits).—RIDGWAY, Orn. 40th Parallel, 1877, 605 (Soda Lakes, Carson Desert, Nevada, breeding; shores and islands Great Salt Lake, Utah, breeding); Proc. U. S. Nat. Mus., iii, 1880, 201 (Cat. N. Am. Birds, no. 566); Nom. N. Am. Birds, 1881, no. 566.—SENNETT, Bull. U. S. Geol. Surv. Terr., iv, 1878, 54 (Galveston Bay, Texas).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 160 (Fort Brown, Texas, resident); Auk, xiv, 1897, 351 (Fort Sheridan, Idaho, 1 pair, Sept.).—(?) KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 84 (Lake Kennedy, Baffin Land).—MAYNARD, Birds E. N. Am., 1879, 368.—BROWN (N. C.), Bull. Nutt. Orn. Club, iv, 1879, 108 (Cape Elizabeth, Maine, 1 spec., Nov. 5, 1878).—PURDIE, Bull. Nutt. Orn. Club, vi, 1881, 123 (Natick, Massachusetts, 1 spec., Oct. 19, 1880).—CHAMBERLAIN (M.), Bull. Nutt. Orn. Club, vii, 1882, 105 (St. Martins, New Brunswick, several).—BELDING, Proc. U. S. Nat. Mus., vi,

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- R[ecurvirostra] americana* BONAPARTE, *Obs. Nom. Wilson's Am. Orn.*, 1826, [201].—GRAY, *Gen. Birds*, iii, 1847, 576.—MAXIMILIAN, *Journ. für Orn.*, 1858, 9 (Missouri).—RIDGWAY, *Ann. Lyc. N. Y.*, x, 1874, 385 (Illinois); *Man. N. Am. Birds*, 1887, 146.—NEWTON (A. and E.), *Handb. Jamaica*, 1881, 115.—COUES, *Key N. Am. Birds*, 2d ed., 1884, 611.
- Avocetta americana* DUMONT, *Dict. Sci. Nat.*, ed. 1, iii, 1804(?), 340.
- Himantopus americanus* SEEBOHM, *Ibis*, 1886, 230 (Geog. range; crit.); *Geog. Distr. Charadriidæ*, 1887, pp. xxi, 291, fig.
- H[imantopus] americanus* SEEBOHM, *Hist. Brit. Birds*, iii, 1885, 75.
- (?)[*R[ecurvirostra] alba* GMELIN, *Syst. Nat.*, i, pt. ii, 1789, 694 (Hudson Bay; based on *Limosa candida* Brisson, *Orn.*, v, 1760, 290; *Barge blanche* Daubenton, *Pl. Enl.*, pl. 875; *White Godwit* Edwards, *Nat. Hist. Birds*, pl. 159; *White Avocet*

- Latham, Synopsis, iii, pt. i, 296).—LATHAM, Index Orn., ii, 1790, 787.—TURTON, Syst. Nat., i, 1806, 419.
- Recurvirostra alba* VIEILLLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 247 (Hudson Bay).
- Recurvirostra occidentalis* VIGORS, Zool. Journ., iv, 1829, 356 (San Francisco, California=adult, winter plumage); Zool. Voy. 'Blossom,' Birds, 1839, 28, pl. 12 (San Francisco).—WAGLER, Isis, 1831, 522 (Mexico).—GRAY, Gen. Birds, iii, 1847, pl. 155.—REICHENBACH, Gallatodes, 1851, pl. 288, figs. 2364, 2365.—BAIRD, in Rep. Stansbury's Survey Great Salt Lake, 1852, 326, 334 (San Francisco, California; New Mexico).—CASSIN, Illustr. Birds Calif., Texas, etc., 1855, 232, pl. 40.—BONAPARTE, Compt. Rend., xliii, 1856, 421.—HARTLAUB, Journ. für Orn., 1858, 450 (California).
- R[ecurvirostra] occidentalis* GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 224 (California).

Genus HIMANTOPUS Brisson.

- Himantopus* BRISSON, Orn., v, 1760, 33. (Type, by tautonymy, [*Himantopus*] *himantopus* Brisson=*Charadrius himantopus* Linnaeus.)
- Macrotarsus* LACÉPÈDE, Tabl. Oiseaux, 1799, 18. (Type, *Charadrius himantopus* Linnaeus.)
- Hypsibates* NITZSCH, in Ersch und Gruber's Encycl., xvi, 1827, 150. (Type, *Charadrius himantopus* Linnaeus.)

Rather large Recurvirostridae (wing about 200–230 mm.) with excessively long, slender legs, slender, straight or very faintly recurved terete bill, no hallux, and with anterior toes cleft nearly to base.

Bill about one-third as long as wing (much more than half as long as tarsus), slender, terete, deeper than wide distally, straight or with distal half very faintly upturned; nostril sub-basal, linear, in a distinct groove extending about one-half the length of maxilla. Neck rather long, slender. Wing long and pointed, the longest primary (outermost) extending much beyond tips of longest tertials. Tarsus about half as long as wing, slender, compressed, covered with small, more or less hexagonal scales, those in front larger and more longitudinal; middle toe, without claw, a little less than one-third as long as tarsus, the lateral toes decidedly shorter, the inner decidedly shorter than outer; anterior toes cleft nearly to the base, but a perceptible web between outer and middle toes (extending about as far as middle of first phalanges); bare portion of tibia about two-thirds as long as tarsus, the lower portion reticulate, like tarsus, the upper portion smooth; hallux absent.

Plumage and coloration.—Plumage of head, neck and under parts dense, gull-like. Coloration white and glossy black in males (the black more sooty in females), some forms entirely black; legs and feet pinkish red.

Range.—Temperate portions of both hemispheres. (About seven species, of which two are American and one peculiar to the Hawaiian Islands.)

KEY TO THE AMERICAN AND HAWAIIAN SPECIES OF HIMANTOPUS.

- a. White of forehead not extended over crown; black of hindneck continuous with that of back.
 - b. Lores with posterior half black; black of hindneck involving sides of neck also; tail tipped with blackish. (Hawaiian Islands.)
Himantopus knudseni (extralimital).^a
 - bb.* Lores almost wholly white; black of hindneck much narrower, not involving sides of neck; tail wholly pale gray. (United States to West Indies, northern Brazil, Peru, and Galapagos Archipelago.)
Himantopus mexicanus (p. 442).
- aa. White of forehead extended over crown; black of hindneck separated from that of back by a band of white. (Southern Brazil, Paraguay, Argentina, and Chile.)
Himantopus melanurus (extralimital).^b

HIMANTOPUS MEXICANUS (Müller).

AMERICAN STILT.

Adult male.—Whole forehead, a large spot above and behind posterior half (more or less) of eye, lores (except near eye), lower portion of auricular region, greater part of suborbital region, whole of malar region, sides of neck and entire under parts, from chin to under tail-coverts, inclusive, rump, and upper tail-coverts immaculate white, sometimes tinged with creamy pink or pale vinaceous in breeding season, especially on chest; rest of head, together with hindneck, back, scapulars, and wings uniform black with a slight but distinct greenish blue gloss; tail pale gray; bill black; iris carmine red or rosy carmine, sometimes grayish brown next to pupil; legs and feet (in life) clear rose-pink.

Adult female.—Similar to the adult male, but back and scapulars grayish brown and black of other portions duller.

Young.—Similar to adult female, but scapulars, interscapulars, and tertials margined with buff or dull whitish, the black of head and hindneck finely mottled with the same.

Downy young.—Upper parts light buffy grayish mottled with dusky, the back and rump with several large blotches of black; head, neck,

^a *Himantopus knudseni* Stejneger, Proc. U. S. Nat. Mus., x, no. 609, May 17, 1887, 81, pl. 6, fig. 2 (Kauai, Hawaiian Islands; coll. U. S. Nat. Mus.); Seebohm, Geogr. Distr. Charadriidae, 1887, pp. xxi, 280; Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 323.

^b *Himantopus melanurus* Vieillot, Nouv. Dict. d'Hist. Nat., x, 1817, 42 (Paraguay; based on *Zancudo* Azara, Apunt. Parag., iii, 1805, 299); Sharpe, Cat. Birds Brit. Mus., xxiv, 1896, 316.—*Himantopus brasiliensis* BREHM, Vög. Deutschl., 1831, 684 (Brazil); Sclater and Salvin, Proc. Zool. Soc. Lond., 1873, 454 (Conchitas, Argentina; fig. of head; synonymy; geog. range); Seebohm, Geogr. Distr. Charadriidae, 1887, pp. xxi, 281, fig.; Sclater and Hudson, Argentine Orn., 1889, 179.—*Himantopus mexicanus* (not *Charadrius mexicanus* Müller) Maximilian, Beitr. Naturg. Bras., iv, 1833, 741; Burmeister, Syst. Ueb. Th. Bras., iii, 1856, 367.—*Himantopus nigricollis* (not of Vieillot) Gould, in Darwin's Zool. Voy. 'Beagle,' iii, 1841, 130 (Rio de la Plata; near Buenos Aires); Gay, Faun. Chil., Zool., 1847, 424; Pelzeln, Orn. Bras., 1871, 310, 457.

and under parts buffy whitish or brownish white, the crown, occiput, and hindneck grayish, the crown with a mesial streak of black, the occiput with several irregular spots of the same.

Adult male.—Wing, 214–232 (222.4); tail, 67–76 (72.9); culmen, 59.5–70 (65.3); tarsus, 98–119 (108.8); middle toe, 35–42 (38.8).^a

Adult female.—Wing, 202.5–218 (211.8); tail, 65.5–71.5 (69.3); culmen, 61–67 (63.9); tarsus, 95.5–109 (103.6); middle toe, 36.5–40 (38.3).^b

Breeding from central Oregon, northern Utah (southern Idaho?)^c and southern Colorado to southern California (Orange County), southern New Mexico, southern Texas (Brownsville; Fort Brown; Corpus Christi), northern Tamaulipas (Matamoros), and coast of Louisiana; also, on coast of South Carolina (Sullivan's Island), Georgia (St. Simons Island) and Florida (Caloosahatchie River), on Bahamas (New Providence, Andros, Great Inagua, Maragauna, and Green Cay islands), Jamaica (?), Peru (Santa Cruz) and on Galapagos Archipelago (Albemarle, Charles, Chatham, Hood, James, Indefatigable, and Seymour islands); formerly breeding northward to New Jersey (Cape May; Egg Island, Delaware Bay) and occurring during migration, casually or occasionally northward to Long Island

^a Nineteen specimens.

^b Fifteen specimens.

Locality.	Wing.	Tail.	Culmen.	Bare portion of tibia.	Tarsus.	Middle toe.
MALES.						
Seven adult males from Florida.....	221.2	71.7	64.4	.....	106.6	39.6
Two adult males from Porto Rico (May).....	221	73.2	69	.....	115.5	39.5
One adult male from Arizona-Sonora boundary.....	224	71	64	.....	112	39.5
Nine adult males from northern Lower California.....	223.6	73.9	65.2	.....	108.7	38.1
Three adult males from Galapagos Islands (June, July).....	[194.1]	68.8	62.2	70.5	97.6	38.8
FEMALES.						
One adult female from New Jersey (Cape May).....	216	68	64	.....	102.5	38
Five adult females from Florida.....	207.4	68	64.5	.....	103.4	38.2
One adult female from Bahamas (Eleuthera Island, July 4).....	211.5	70	61	.....	109	40
One adult female from Cuba (May 18).....	204.5	67	64	.....	108.5	39
Two adult females from southern California (San Diego County).....	215.5	69	64.2	.....	98.2	37
One adult female from northern Lower California.....	212.6	69.9	64	.....	105.4	38.2
One adult female from southern Lower California (January).....	221	76	63	.....	98	39
Two adult females from Galapagos Islands (June, July).....	[195.6]	66	64.1	61.8	98.8	39.7

The wing measurements of the Galapagos specimens are defective, all of them having the primaries not fully grown out.

Adult females from Florida have the back and scapulars a decidedly darker grayish brown than those from western localities.

^c Olds Ferry, Snake River.

(Great South Bay, 2 specimens, 1843), Massachusetts (Essex County), Maine (near Calais), New Brunswick (Maces Bay, Sept., 1880; Grand Menan), Wisconsin, Nebraska, etc.; ranges southward, at least during migration (probably breeding locally) over whole of Mexico, Central America, West Indies, and northern South America* as far as Amazon Valley (Mexiana Island; Pará, Santarém, Amapa, Ilha Grande, and Joazeiro, Brazil) and Peru (Santa Cruz, breeding; Ingapirca; Santa Lucia; Tumbes).

Charadrius mexicanus MÜLLER, Syst. Nat. Suppl., 1776, 117 (Mexico; based on *L'Echasse du Mexique* Brisson, Orn., v, 1760, 36).

Himantopus mexicanus ORD, ed. Wilson's Am. Orn., vii, 1824, 52.—WAGLER, Isis, 1831, 520.—BONAPARTE, Geog. and Comp. List, 1838, 54.—SALLÉ, Proc. Zool. Soc. Lond., 1857, 237 (Santo Domingo).—GIEBEL, Vög., 1860, 371, fig. 664.—BRYANT (H.), Proc. Bost. Soc. N. H., xi, 1867, 97 (Santo Domingo).—RIDGWAY, Orn. 40th Parallel, 1877, 606 (Soda Lake, Carson Desert, Nevada, breeding; near Salt Lake City, Utah, breeding); Proc. U. S. Nat. Mus., iii, 1880, 10 (crit. nomencl.), 201 (Cat. N. Am. Birds, no. 567); v, 1883, 534, footnote (Sierra de Santiago, Cape San Lucas, and San Jose del Cabo, Lower California); Nom. N. Am. Birds, 1881, no. 567.—MERRILL, (J. C.), Proc. U. S. Nat. Mus., i, 1878, 161 (Fort Brown, Texas, resident; descr. nest and eggs).—BELDING, Proc. U. S. Nat. Mus., i, 1879, 440 (Stockton and Sutter Co., California, breeding); vi, 1883, 352 (Lower California s. of lat. 24° 30').—CHAMBERLAIN (M.), Bull. Nutt. Orn. Club, vii, 1882, 105 (Maces Bay, New Brunswick, 1 spec., Sept., 1880).—COUES, Check List, 2nd ed., 1882, no. 601.—BAILEY (H. B.), Bull. Nutt. Orn. Club, viii, 1883 42 (St. Simons Island, Georgia, breeding).—BAIRD, BREWER, and RIDGWAY, Water Birds, N. Am., i, 1884, 345.—CORY, Birds Haiti and San Dom., 1885, 146; Auk, iv, 1887, 231 (West Indian localities and references); viii, 1891, 46 (Antigua and Anguilla, Lesser Antilles), 351 (Inagua, Bahamas); ix, 1892, 48 (Maragauna, Bahamas); Birds West Ind., 1889, 231; Cat. West Ind Birds, 1892, 92 (New Providence, Andros, Maragauna, and Great Inagua Islands, Bahamas; Cuba, Jamaica,

* This species has been recorded from the following localities south of the United States: Mexico: Sonora (Cachuta); Sinaloa (Mazatlan; Presidio de Mazatlan, Dec. 20); Jalisco (Guadalajara; Santa Ana, Dec. 3; Zapotlan); Michoacan (Lake Patzcuaro, Dec. 22); Tepic (Tres Marias Islands, Feb. 20); Colima (Rio de Coahuayana); Oaxaca (San Mateo, Aug.); Vera Cruz (Jalapa; Santa Ana, Oct.; Tuxpan; Lake Tamaqua); Puebla (Laguna de Chapulco; Santa Ana); Guanajuato; Tamaulipas (Matamoros, breeding; Tampico; Tamesi); Yucatan (Progreso, Oct.; Cozumel Island, June; Holbox Island); Lower California (Sierra de Santiago, Jan.; San Jose del Cabo, Feb. and Oct. 14 and 19; Cape San Lucas, Feb.)

Guatemala: San Jose, Jan.; Chiapam.

Honduras: Ruatan Island.

Nicaragua: Momotombo.

Costa Rica: Rio Frio; Las Trojas.

Panama: Lion Hill.

Venezuela: Cumana.

British Guiana.

Cayenne.

West Indies: Cuba, Isle of Pines, Jamaica, Haiti, Porto Rico, and St. Croix, Greater Antilles; Anguilla, St. Bartholomew, Antigua, St. Vincent, and Barbados, Lesser Antilles; Curaçao and Bonaire, Dutch West Indies.

- Haiti, Porto Rico, Tortola, and St. Croix, Greater Antilles; Barbuda, Antigua, St. Vincent, and Barbados, Lesser Antilles), 156 (St. Bartholomew, Greater Antilles).—ZELEDÓN, Proc. U. S. Nat. Mus., viii, 1885, 113 (Costa Rica); Anal. Mus. Nac. C. R., i, 1888, 130 (Las Trojas, Costa Rica).—DREW, Auk, ii, 1885, 19 (Colorado, 5,000–8,000 ft.).—GOSS, Auk, iii, 1886, 114 (Laken, s. w. Kansas, June).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 178 (Laguna de Chapulco, Puebla).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 226; 3rd ed., 1910, p. 109.—SENBORN, Ibis, 1886, 232 (geog. range; crit.); Geog. Distr. Charadriidae, 1887, pp. xxi, 279, fig.—COOPER, Auk, iv, 1887, 87 (Ventura Co., California).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., x, 1887, 163 (Lassen Peak, California), 198 (n. e. California); xiii, 1890, 134 (Clarion Island, Revillagigedo group).—SCOTT, Auk, vi, 1889, 156 (Sanibel Island, w. Florida, 2 specs., March 26 and May 2, 1886); ix, 1892, 12 (Jamaica; breeding?), 212 (Caloosahatchie River, Florida, breeding).—MORTIMER, Auk, vi, 1890, 338 (St. Johns River, Florida, April; swimming ability).—NORTHROP, Auk, viii, 1891, 76 (Andros Island, Bahamas, breeding).—RIKER and CHAPMAN, Auk, viii, 1891, 163 (Santarem, lower Amazon, April 16).—MERRIAM, North Am. Fauna, no. 5, 1891, 91 (near Old's Ferry, Snake River, Idaho, July).—RHODES, Proc. Ac. Nat. Sci. Phila., 1892, 104 (near Corpus Christi, Texas, breeding).—DUTCHER, Auk, x, 1893, 272 (Great South Bay, Long Island, 2 specs., 1843).—RICHMOND, Proc. U. S. Nat. Mus., xvi, 1893, 526 (Rio Frio, Costa Rica, Feb. 29).—JOY, Proc. U. S. Nat. Mus., xvi, 1893, 791 (Lake Patzcuaro, Michoacan, Dec. 22; fresh colors of unfeathered parts).—FISHER (A. K.), N. Am. Fauna, no. 7, 1893, 22 (Mojave Desert, California, July).—STONE, Birds E. Penn. and N. J., 1894, 70 (Cape May, New Jersey; Egg Island, Delaware Bay).—ELLIOT, N. Am. Shore Birds, 1895, 35, pl. 6.—SHARPE, Cat. Birds Brit. Mus., xxiv, 1896, 320.—GONDI, Ibis, 1897, 164 (Amapa, n. e. Brazil).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 189 (Indefatigable, Albemarle, Chatham, and James Islands, Galapagos; crit.); ix, 1902, 412 (Indefatigable I.), 418 (Galapagos; resident and breeding?).—BEYER, Proc. La. Soc. Nat. for 1897–99 (1900), 94 (Louisiana, resident).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1902, ii, 52 (Ingapirca, Peru).—HARTERT, Novit. Zool., ix, 1902, 307 (Curaçao and Bonaire, Dutch West Indies); Ibis, 1893, 325 (Curaçao), 334 (Bonaire).—BONHOTE, Ibis, 1903, 301 (Green Cay, Bahamas; Andros Island, Bahamas, breeding; habits).—SALVIN and GODMAN, Biol. Centr. Am., Aves, iii, 1903, 361.—BANGS and ZAPPEY, Am. Nat., xxxix, 1905, 195 (Isle of Pines, Cuba, May 15).—WAYNE, Auk, xxiii, 1906, 57 (Sullivan's I., South Carolina, breeding; habits).—HAGMANN, Zool. Jahrb., 1907, 45 (Mexicana I., Brazil).—BEYER, ALLISON, and KOPMAN, Auk, xxv, 1908, 176 (Louisiana, resident).—REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, lxxvi, 1910, 94 (Joazeiro, Ilha Grande, etc., n. e. Brazil).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 417 (Costa Rica).—GIFFORD, Proc. Calif. Ac. Sci. 4th ser., ii, pt. i, 1913, 54, pl. 1, fig. 2 (Albemarle, Charles, Chatham, Hood, Indefatigable, James, and Seymour islands, Galapagos, breeding).—GRINNELL, Pacific Coast Avifauna, no. 11, 1915, 49 (California; common summer visitor to interior valleys. breeding northward to Sutter Co., southward to Orange Co.).
- H[imantopus] mexicanus* TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 313 (Peru).—GRAY, Gen. Birds, iii, 1847, 577.—COUES, Key N. Am. Birds, 2nd ed., 1884, 611.—RIDGWAY, Man. N. Am. Birds, 1887, 147.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos Archipelago).
- [*Himantopus*] *mexicanus* SHARPE, Hand-list, i, 1899, 156.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 68 (Cumana, Venezuela; Para, Brazil; etc.).

- Himantopus mexicanus*? RIDGWAY, Proc. U. S. Nat. Mus., xix, 1896, 633 (James Island, Galapagos; crit.).
- ?*Himantopus mexicanus* RIDGWAY, Proc. U. S. Nat. Mus., xix, 1896, 633 (Albemarle, Chatham, Indefatigable, and James Islands, Galapagos; crit., measurements, etc.).
- [*Charadrius*] *himantopus* (not of Linnæus) GMELIN, Syst. Nat., i, pt. ii, 1789, 690, part.—LATHAM, Index Orn., ii, 1790, 741, part.
- Recurvirostra himantopus* WILSON, Am. Orn., vii, 1813, 48, pl. 58, fig. 2.
- [*Charadrius himantopus*] β . LATHAM, Index Orn., ii, 1790, 741 (ex *Himantopus mexicanus* Brisson, Orn., v. 36).
- Himantopus nigricollis* VIEILLOT, Nouv. Dict. d'Hist. Nat., x, 1817, 42 (North America to Cayenne); Gal. Ois., ii, 1834, 85, pl. 229.—BONAPARTE, Ann. Lyc. N. Y., ii, 1826, 322; Geog. and Comp. List, 1838, 54.—LESSON, Traité d'Orn., 1831, 550.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 8.—AUDUBON, Orn. Biog., iv, 1838, 247, pl. 328; Synopsis, 1839, 253; Birds Am., 8vo ed., vi, 1843, 31, pl. 354.—PEABODY, Rep. Orn. Mass., 1839, 358 (accidental).—GRAY, List Birds Brit. Mus., iii, Gallæ, 1844, 98, part.—GOSSE, Birds Jamaica, 1847, 386; Illustr. Birds Jamaica, 1849, pl. 108.—JARDINE, Contr. Orn., 1848, 84 (Bermudas, autumn).—LEMBEYE, Aves de la Isla de Cuba, 1850, 102.—MCCALL, Proc. Ac. Nat. Sci. Phila., v, 1851, 222 (Texas).—HENRY, Proc. Ac. Nat. Sci. Phila., vii, 1855, 315 (New Mexico); xi, 1859, 108 (New Mexico).—SCLATER, Proc. Zool. Soc. Lond., 1857, 206 (Jalapa, Vera Cruz); 1860, 290 (Bahahoyo, w. Ecuador); 1864, 178 (near City of Mexico); 1866, 567 (Rio Ucayali, e. Peru).—CASSEN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 704.—BAIRD, Cat. N. Am. Birds, 1859, no. 518; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 25 (Brazos, Texas).—NEWTON (A. and E.), Ibis, 1859, 258 (St. Croix).—SCLATER and SALVIN, Ibis, 1859, 228 (La Antigua, Guatemala); Proc. Zool. Soc. Lond., 1866, 567 (Rio Ucayali, e. Peru); 1867, 591 (Mexiana Island, mouth of Amazon River); 1870, 323 (Indefatigable Island, Galapagos); 1873, 310 (upper Rio Ucayali and Santa Cruz, e. Peru, breeding; descr. nest and eggs), 453 (synonymy; geog. range).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 15 (Enterprise, Florida), 121 (Bahamas).—MARTENS, Journ. für Orn., 1859, 218 (Bermudas).—XANTUS, Proc. Ac. Nat. Sci. Phila., xi, 1859, 192 (Fort Tejon, California).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—ALBRECHT, Journ. für Orn., 1861, 56 (Bahamas); 1862, 206 (Jamaica).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 128 (Calais, Maine).—TAYLOR, Ibis, 1862, 129 (Florida).—LAWRENCE, Ann. Lyc. N. Y., viii, 1863, 12 (Lion Hill, Panama); viii, 1866, 295 (vicinity New York City); Mem. Bost. Soc. N. H., ii, 1874, 308 (Rio de Coahuylana, Colima; Mazatlan, Sinaloa); Bull. U. S. Nat. Mus., no. 4, 1876, 46 (San Mateo, Oaxaca, Aug.); Proc. U. S. Nat. Mus., i, 1878, 197 (St. Vincent), 238 (Antigua), 242 (Barbuda).—MARCH, Proc. Ac. Nat. Sci. Phila., xvi, 1864, 67 (Jamaica).—SCHLEGEL, Mus. Pays-Bas, v. no. 27 (Scolopaces), 1864, 107, part.—COUES, Ibis, 1865, 159 (New Mexico); 1866, 263 (Colorado River, Arizona); Proc. Ac. Nat. Sci. Phila., xviii, 1866, 97 (Fort Whipple, Arizona); Proc. Bost. Soc. N. H., xii, 1868, 123 (South Carolina); Proc. Essex Inst., v, 1868, 292 (New England); Check List, 1873, no. 408; Birds Northwest, 1874, 462.—SALVIN, Ibis, 1865, 192 (Guatemala); 1866, 178 (Brit. Guiana); 1889, 379 (Cozumel Island); Trans. Zool. Soc. Lond., ix, 1876, 502 (Indefatigable Island, Galapagos).—DRESSER, Ibis, 1865, 319 (Galveston, Texas); 1866, 35 (s. Texas).—SUNDEVALL, Oefv. K. Vet.-Ak. Förh., 1869, 602 (Porto Rico).—TURNBULL, Birds E. Penn. and N. J., 1869, 38 (Phila. ed., 29).—ALLEN, Am. Nat., iii, 1870, 638 (Massachusetts); Bull. Mus. Comp. Zool., ii, 1871, 356 (e. Florida); iii, 1872, 171 (Great Salt Lake, Utah).—

- WYATT, Ibis, 1871, 383 (Cienega, Colombia).—MERRIAM, Sixth An. Rep. U. S. Geol. Surv. Terr., 1872 (1873), 702, 711 (Great Salt Lake, breeding), 714 (Utah).—HARTING, Ibis, 1874, 254 (Guatemala to Brazil).—COOPER, Am. Nat., viii, 1874, 18 (Cuyamaca Mts., Cal.).—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 12 (Great Salt Lake); Zool. Expl. W. 100th Merid., 1875, 450 (Fairfield, Utah, Aug.; Alkali Lakes, Colorado, breeding).—REID, Zoologist, 1877, 475 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 231 (Bermudas, 1 spec., June 3, 1853).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 748 (Santa Lucia, Peru); Orn. du Pérou, iii, 1886, 383 (Tumbez).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 54 (Brownsville, Texas, breeding).—MAYNARD, Birds E. N. Am., 1879, 368.—CORY, Birds Bahama Is., 1880, 153 (Bahamas, breeding).—BOUCARD, Proc. Zool. Soc. Lond., 1883, 462 (Yucatan).—BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 119 (Babahoyo, w. Ecuador).—FEILDEN, Ibis, 1889, 492 (Barbados).—PETERS, Journ. für Orn., 1892, 121 (Curaçao).
- [Himantopus] nigricollis* BONAPARTE, Obs. Nom. Wilson's Am. Orn., 1826, [202].—GAMBEL, Journ. Ac. Nat. Sci. Phila., 2nd ser., i, 1849, 224 (w. Mexico; Santa Barbara, Cal., April).—MAXIMILIAN, Journ. für Orn., 1859, 92 (Missouri River).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 385 (Illinois).—NEWTON (A. and E.), Handb. Jamaica, 1881, 115.
- [Himantopus] nigricollis* GRAY, Hand-list, iii, 1871, 48, no. 10294.—COUES, Key N. Am. Birds, 1872, 247.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 144.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 26.
- [Himantopus nigricollis]* a. *nigricollis* COUES, Birds Northwest, 1874, 462 (synonymy).
- Himantopus nigrocollis* CABOT, Proc. Bost. Soc. N. H., ii, 1845, 46 (Surinam).
- Himantopus nigricollis* PUTNAM, Proc. Essex Inst., i, 1856, 230 (Essex Co., Massachusetts).
- [Hypsibates] nigricollis* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 758.
- Macrotarsus nigricollis* CABANIS, Journ. für Orn., 1856, 422 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 88 (Cuba; crit.); 1871, 294 (Cuba); 1874, 313 (Porto Rico); 1875, 329 (Cuba; habits); 1878, 161, 188 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 357; Orn. Cubana, 1876, 177; Anal. Soc. Esp. Hist. Nat., vii, 1878, 377 (Porto Rico).
- [Macrotarsus] nigricollis* GUNDLACH, Journ. für Orn., 1861, 342 (Cuba).
- Himantopus leucurus* VIEILLOT, Nouv. Dict. d'Hist. Nat., x, 1817, 42 (Mexico).—LESSON, Traité d'Orn., 1831, 550.
- Himantopus melanopterus* (not of Meyer, 1814) NUTTALL, Man. Orn. U. S. and Can., 1834, 10.—DENNY, Proc. Zool. Soc. Lond., 1847, 39 (North America).
- Himantopus rufipes* (not of Bechstein, 1809) LICHTENSTEIN, Preis-Verz. Mex. Vög., 1830, 3 (Mexico); Journ. für Orn., 1863, 58 (reprint).

Suborder LARI.

THE GULL TRIBE.

- Pelagi* VIEILLOT, Analyse, 1816, 65.
- Laride* BONAPARTE, Consp. Gen. Av., ii, 1857, 206.—LAWRENCE, in BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 819, 837.—CARUS, Handb. Zool., i, 1868, 361.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, viii, 147.—COUES, Key N. Am. Birds, 1872, 308; 2nd ed., 1884, 733; Birds Northwest, 1874, 590.—STEJNEGER, Standard Nat. Hist., iv, 1885, 77, in text.—FÜRBRINGER, Unters. Morph.

- Syst. Vög., ii, 1888, 1158.—GADOW, *Classif. Vertebr.*, 1898, 35.—BEDDARD, *Struct. and Classif. Birds*, 1898, 350.—KNOWLTON, *Birds of the World*, 1909, 49, 386.—SHARPE, *Review Rec. Att. Classif. Birds*, 1891, 72; *Hand-list*, i, 1899, xiv, 133.
- Laridae* SAUNDERS, *Cat. Birds Brit. Mus.*, xxv, 1896, xiii, 3.—SALVIN and GODMAN, *Biol. Centr.-Am., Aves*, iii, 1903, 397.
- Lariiformes* SHARPE, *Review Rec. Att. Classif. Birds*, 1891, 72; *Hand-list*, i, 1899, xiv, 133.
- Laroides* STEINBERGER, *Standard Nat. Hist.*, iv, 1885, 74, in text.
- Lari* SHARPE, *Review Rec. Att. Classif. Birds*, 1891, 72.—OBERHOLSER, *Outl. Classif. N. Am. Birds*, 1905, 3.
- > *Lari* GADOW, *Classif. Vertebr.*, 1898, 35 (includes *Alcae*).—KNOWLTON, *Birds of the World*, 1909, 49, 385 (includes *Alcae*).
- Gavis* SOLATIER, *Ibis*, 1880, 409.—SAUNDERS, *Cat. Birds Brit. Mus.*, xxv, 1896, xiii, 1, 3.—SALVIN and GODMAN, *Biol. Centr.-Am., Aves*, iii, 1903, 397.
- Longipennes* BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 191.—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, 84; 3rd ed., 1910, 33.—RIDGWAY, *Man. N. Am. Birds*, 1887, 1, 20.
- Longipennes* NITZSCH, *Meckel's Deutsches Archiv Phys.*, 1820, 265.—DUBOIS, *Mém. Soc. Zool. France*, iv, 1891, 23.
- Fissurinares* BURMEISTER, *Syst. Ueb. Thiere Bras.*, iii, ii, 1856, 447.
- > < *Larinae* BONAPARTE, *Saggio distr. Anim. Vertebr.*, 1831, 59 (includes *Chionides*; excludes *Stercorariidae*).—GADOW, in BRONN's *Thier-Reich*, Vög., ii, 1893, 205 (excludes *Rynchopidae*).
- > *Longipennes* LAWRENCE, in BAIRD, *Rep. Pacific R. R. Surv.*, ix, 1858, 830 (includes *Tubinares*).—COUES, *Key N. Am. Birds*, 1872, 307 (includes *Tubinares*).

Long-winged, short-, or relatively short-, legged, aquatic Charadriiformes with hypotarsus simple (grooved but without canals); coracoids in contact (except in *Stercorariidae*); supraorbital grooves present, large, the space between them broad and flat; basipterygoid processes absent (vestigial or rudimentary in young); occipital foramina absent in adults; furcula with a hypocleideum; adult downs on both pterylæ and apteria; bill and legs relatively short, the latter attached to middle of body; anterior toes more or less (usually fully) webbed; hallux absent or minute; young tardily nidifugous (nearly nidicolous).

Metasternum usually 4-notched (2-notched in *Stercorariidae*); coracoids in contact behind spina externa (except in *Stercorariidae*); ectepicondylar process usually well-developed; coraco-humeral groove distinct, very deep; cervical vertebrae, 15; dorsal vertebrae, 5; hæmapophyses of dorsal vertebrae well-developed; ribs articulating with sternum, 6-7; hypotarsus with 2 grooves; tensores patagii limicoline, but somewhat more complicated; thigh-muscle formula, AX+, AXY+, ABXY+, or BXY+; syrinx typically tracheo-bronchial; carotids, 2; spinal pteryla well-defined on neck by lateral apteria, forked on upper back; ventral pteryla dividing farther down neck than in *Limicolæ*; rectrices, 12.

Characters possessed in common by the Lari and the Limicolæ, as opposed to the Alcæ, are given on pages 2 and 3. Those possessed by both the Lari and the Alcæ but not shared by the Limicolæ are as follows:

Hypotarsus simple (without canals); supraorbital grooves large; bill and legs relatively short and stout; anterior toes fully webbed (with a few exceptions); young tardily nidifugous (nearly nidicolous); habits aquatic.

The Lari are long-winged swimming birds, of graceful, bouyant, and powerful flight, with anterior toes more or less fully webbed, the hallux small and elevated, sometimes rudimentary or nearly obsolete, and the legs are attached near the middle of the body, which therefore assumes a nearly horizontal position when the birds are standing or perching. Their nidification is not materially different from that of the Limicolæ, but the young remain longer in the nest than those of the latter group, being, in fact, more nidicolous than nidifugous.

Distribution, cosmopolitan.

KEY TO THE FAMILIES OF LARI.

a. *Ambiens* muscle and biceps slip absent; tendons to ulna side of arm, 2; bill peculiar, the mandible much longer than the maxilla, both excessively compressed.

Rynchopidae (p. 449).

aa. *Ambiens* muscle and biceps slip present; tendons to ulna side of arm, 1 or none; bill not peculiar.

b. *Ramphotheca* simple (bill without cere); *caeca* rudimentary (except in genus *Gygis* of *Sternidae*); *metasternum* 4-notched; coracoids in contact; claws moderately to feebly developed.

c. Thigh-muscle formula with B (except in *Gygis*); *expansor secundariorum* absent (except in *Anous*); exposed culmen at least one and one-fourth (sometimes nearly three times) as long as tarsus, the latter usually less than one-tenth (never much more than one-ninth) as long as wing; tail usually (often deeply) forked; pterylosis typically charadriine.....*Sternidae* (p. 458.)

cc. Thigh-muscle formula without B; *expansor secundariorum* present; exposed culmen less than one and one-fourth times as long as tarsus (usually shorter than tarsus), the latter more than one-tenth (sometimes more than one-sixth) as long as wing; tail usually truncate or slightly rounded, rarely graduated, never very deeply forked; pterylosis not typically charadriine.

Laridae (p. 561).

bb. *Ramphotheca* complex (bill with a cere); *caeca* well-developed, long; coracoids separated; *metasternum* 2-notched; claws large, strongly hooked, sharp.....*Stercorariidae* (p. 676).

Family RYNCHOPIDÆ.

THE SKIMMERS.

= *Rhynchopsinæ* BONAPARTE, Geog. and Comp. List Birds, 1838, 60.

= *Rhynchopsinæ* LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 837, 865.—CARUS, Handb. Zool., i, 1868, 362.—COUES, Proc. Ac. Nat. Sci. Phila., 1869, 314; Key N. Am. Birds, 1872, 323; 2d ed., 1884, 734, 772; Birds Northwest, 1874, 712.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—STEJNEGER, Standard Nat. Hist., iv, 1885, 83, in text.—GADOW, in Bronn's Thier Reich,

Vög., ii, 1891, 206.—SHARPE, Review Rec. Att. Classif. Birds, 1891, 7. Hand-list, 1899, xiv, 138.—SAUNDERS, Cat. Birds, Brit. Mus., xxv, 1896, xiii, 4, 152.—BEDDARD, Struct. and Classif. Birds, 1898, 356.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 416.—KNOWLTON, Birds of the World, 1909, 393.

- =*Rhynchopidæ* RIDGWAY, Proc. U. S. Nat. Mus., vi, April 11, 1883, 409.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 191.
 =*Rhynchopsidæ* RIDGWAY, Proc. U. S. Nat. Mus., iii, Sept. 4, 1880, 240.
 =*Rynchopidæ* AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 96; 3rd ed., 1910, 48.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 3.

Very long-winged, small-footed Lari with bill wholly unique, the mandible much longer than the maxilla, both compressed to knife-like thinness (except at extreme base), the distal portion of the maxilla grooved beneath to receive the very sharp tomia of the distal portion of the mandible, the latter much higher at tip than the latter and obliquely truncate or subtruncate in lateral profile. Wing very long, pointed, the longest primary exceeding distal secondaries by about two-thirds length of wing. Ambiens muscle and biceps slip absent (present in other Lari); tendons to ulna side of arm, 2 (1 or none in other Lari).

The Rynchopidæ are perhaps most nearly allied to the Sternidæ but differ—not only from the latter but from all other birds—in the altogether peculiar conformation of the bill. They also differ from other Lari in absence of the ambiens muscle and biceps slip, and in possessing two tendons to the ulna side of the arm.

In general habits the Rynchopidæ are much like the Sternidæ and Laridæ, but their manner of feeding is wholly different, for in search of their food the mouth is opened and the long, knife-like mandible buried in the water as the bird skims along its surface.

Only one genus is known, this being represented by about four species, of which two are American, the others inhabiting the seas and estuaries of Africa and India, respectively.

Genus RYNCHOPS Linnæus.

Rynchops LINNÆUS, Syst. Nat., ed. 10, i, 1758, 138; ed. 12, i, 1766, 228. (Type by monotypy, *Rynchops nigra* Linnæus.)

Rhynchops (emendation) LATHAM, Index Orn., ii, 1790, 802.

Rhijnops (emendation) TEMMINCK, Cat. Syst., 1807, 181.

Rhincops (emendation) BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1828, 19. 351, 447.

Rhynops (emendation) VIEILLOT, Nouv. Dict. d'Hist. Nat., iii, 1816, 338.

Ryghopsalia BRISSON, Orn., vi, 1760, 222 (ex Barrère, Orn. Sp. Nov., 1745. 20).

(Type, "*Ryghopsalia*" = *Rynchops nigra* Linnæus.)

Rhynchopsalia (emendation) GLOGER, Hand-u. Hilfsb., 1842, 463.

Psalidorhamphos a DUMONT, Dict. Sci. Nat., iv, 1805, 173. (Substitute name for *Rynchops* Linnæus.)

^a Ψαλίς (Ψαλίδος), a pair of shears, a kind of razor; ῥάμφος, beak. (Richmond.)

Anisorampha^a DUMONT, Dict. Sci. Nat., iv, 1805, 173. (Alternative substitute name for *Rynchops*?)

(Generic characters same as Family characters.)

KEY TO THE SPECIES AND SUBSPECIES OF RYNCHOPS.

- a. Under wing-coverts and axillars white or very pale brownish gray, in abrupt and conspicuous contrast with black along edge of wing; secondaries very broadly tipped with white; under tail-coverts white; lateral rectrices white or mostly so. (*Rynchops nigra*.)
- b. Axillars and under wing-coverts pure white; smaller (wing 350-401 in male, 338-358 in female; culmen 63-72 in male, 52-57 in female). (Atlantic and Gulf coasts of United States, south in winter to Yucatan, Trinidad, etc.)
Rynchops nigra nigra (p. 451).
- bb. Axillars and under wing-coverts pale brownish gray or tinged with that color, larger (wing 385-412 in male, 382 in female; culmen 74.5-83 in male, 66 in female). (Atlantic coast of South America and Pacific coast of Central America and Mexico.)..... *Rynchops nigra intercedens* (p. 453).
- aa. Under wing-coverts and axillars brownish gray, not strongly contrasted with blackish along edge of wing; secondaries very narrowly tipped with white; under tail-coverts brownish gray margined with white; lateral (as well as middle) rectrices deep brownish gray narrowly edged with white. (Atlantic and Pacific; coasts of South America; casual in Yucatan.) . *Rynchops cinerascens* (p. 455).

RYNCHOPS NIGRA NIGRA (Linnaeus).

BLACK SKIMMER.

Adults in summer (sexes alike).—Forehead, lores, suborbital and malar regions, and entire under parts (including axillars and under wing-coverts), lateral upper tail-coverts, and broad tips to secondaries and proximal primaries, immaculate pure white; rest of plumage (except tail), including auricular region, uniform black or sooty black; tail mostly white, the middle pair of rectrices grayish brown edged with white, the remaining rectrices more or less tinged at tips with the same; basal half (approximately) of bill bright vermilion red (in life), the mandible more scarlet, passing into orange or yellow on tomium, the terminal half black; iris dark brown; legs and feet rich orange-vermilion (in life).

Adults in winter.—Similar to summer adults but the black duller and more brownish and interrupted by a broad collar of white across lower hindneck.

Young.—Upper parts light buff, each feather with a central spot of blackish, these spots largest on scapulars; lores and suborbital region uniform pale buff, the former, however, with a dusky space immediately in front of eye; greater wing-coverts blackish gray or grayish black, tipped with white; secondaries white for most of their exposed portion; primaries blackish, the fourth, fifth, and sixth (from outside) margined terminally with light buff, the four inner (proximal)

^aἈνισος, unequal; ῥάμφος, beak. (Richmond.)

ones dusky passing into white at tips; under parts entirely immaculate white; bill, legs, and feet dull or dusky reddish.

Downy young.—Upper parts pale grayish buff irregularly and rather sparsely mottled with blackish; under parts immaculate white.

Adult male.—Wing, 350–401 (381.7); tail, 116–134 (124.3); culmen, 63–72 (68.1); greatest depth of bill, 26.5–29.5 (28.1); tarsus, 31–34.5 (32.9); middle toe, 22–24 (22.6).^a

Adult female.—Wing, 338–358 (346); tail, 101.5–110.5 (106.6); culmen, 52–57 (55); greatest depth of bill, 22–24 (22.9); tarsus, 25–29 (27.6); middle toe, 18–19 (18.4).^b

Breeding along Atlantic and Gulf coasts of United States, from New Jersey (Little Egg Harbor, Long Beach, Brigantine Beach), formerly (up to 1832) northward to Muskeget Island, Massachusetts, to Texas; migrating southward to eastern Nicaragua (Los Sábalos), coast of British Guiana, coast of Venezuela (Margarita Island), Trinidad, and coast of northeastern Brazil (Ilha Grande; Rio São Francisco); wintering northward to Gulf coast of United States; casual, usually after storms at sea, northward to Bay of Fundy, and inland near Whitesboro, Oneida County, New York, fall of 1893; Washington, District of Columbia; Chester, South Carolina, Sept. 10, 1882; Obion County, Tennessee; casual or occasional in Cuba and St. Croix.

[*Rynchops*] *nigra* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 138 (coast of South Carolina; based on *The Cut Water* Catesby, Nat. Hist. Carolina, i, 1731, 90, pl. 90; etc.); ed. 12, i, 1766, 228.—GMELIN, Syst. Nat., i, pt. ii, 1789, 611.

Rynchops nigra BREWER, Bull. Nutt. Orn. Club, iv, 1879, 243 (Woods Hole, Massachusetts, 1 spec., Aug. 19, 1879).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2nd ed., 1895, no. 80; 3rd ed., 1910, p. 48.—BAGG, Auk, xi, 1894, 162 (near Whitesboro, Oneida Co., New York, 1 spec., fall of 1893).—CORY, Auk, v, 1888, 74 (Cuba; St. Croix; West Indian references); Birds West Ind., 1889, 275.—SCHICK, Auk, vii, 1890, 327 (Seven Mile Beach, New Jersey, breeding).—BAGG, Auk, xi, 1894, 162 (near Whitesboro, Oneida Co., New York, 1 spec., fall of 1893).—ROADS, Proc. Ac. Nat. Sci. Phila., 1895, 466 (Obion Co., Tennessee, 1 spec.).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1895, 654 (Margarita I., Venezuela, summer; habits).—BETTER, Proc. La. Soc. Nat. for 1897–99 (1900), 87 (coast Louisiana, resident).

[*Rynchops*] *nigra* RIDGWAY, Man. N. Am. Birds, 1887, 49.

[*Rhynchops*] *nigra* LATHAM, Index Orn., ii, 1790, 802.—COUES, Key N. Am. Birds, 1872, 324.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—CORT, List Birds, West Ind., 1885, and revised ed., 1886, 33 (Cuba; St. Croix?).—SHARPE, Hand-list, i, 1899, 138.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 56.

Rhynchops nigra WILSON, Am. Orn., vii, 1813, 85, pl. 60, fig. 4.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 616.—AUDUBON, Orn. Biog., iv, 1838, 203; Synopsis, 1839, 314; Birds Am., 8vo. ed., vii, 1844, 67, pl. 428.—BONAPARTE, Geog. and Comp. List, 1838, 60.—GERHARDT, Naumannia, iv, 1854, 193 (n. Florida).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 866; Ann. Lyc. N. Y., viii, 1866, 299 (vicinity New York City).—BAIRD, Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 28 (Brazos, Texas); Cat. N. Am. Birds, 1859, no. 697.—GUNDLACH, Journ. für Orn., 1859, 348 (Cuba);

^a Ten specimens.

^b Four specimens.

1875, 395 (Cuba); Repert. Fisico-Nat. Cuba, i, 1866, 393 (Cuba).—COUES and PRENTISS, An. Rep. Smithson. Inst. for 1861 (1862), 419 (Washington, D. C., accidental).—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 39.—SCLATER, Proc. Zool. Soc. Lond., 1864, 199 (near City of Mexico).—LÉOTAUD, Ois. Trinidad, 1866, 534.—DRESSER, Ibis, 1866, 45 (s. Texas).—COUES, Proc. Essex Inst., v, 1868, 309 (New England coast, formerly); Proc. Bost. Soc. N. H., xii, 1868, 127 (South Carolina); Proc. Ac. Nat. Sci. Phila., 1871, 46 (Fort Macon, North Carolina); Check List, 1873, no. 507; 2nd ed., 1882, no. 809; Birds Northwest, 1874, 715 (monogr.).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 566 (monogr.).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 368 (e. Florida, winter).—BAILEY (H. B.), Bull. Nutt. Orn. Club, i, 1876, 28 (Cobb's Island, Virginia, breeding).—BOUCARD, Liste Ois. récol. Guat., 1878, 18 (Guatemala); Proc. Zool. Soc. Lond., 1883, 462 (Yucatan).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 227 (Little Egg Harbor, Brigantine Beach, and Long Beach, New Jersey, breeding).—BREWER, Proc. Bost. Soc. N. H., xx, 1879, 276 (Woods Hole, Massachusetts, 1 spec., Aug. 19, 1879).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 206 (Cat. N. Am. Birds, no. 656); Nom. N. Am. Birds, 1881, no. 656.—PURDIE, Bull. Nutt. Orn. Club, vii, 1882, 125 (Cape Cod, Massachusetts, in 1605; breeding on Muskeget Island, Massachusetts up to 1832).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 192.—LOOMIS, Auk, ii, 1885, 193 (Chester, South Carolina, 1 spec., Sept. 10, 1882, after storm).—SALVIN, Ibis, 1886, 180 (Brit. Guiana).—CORY, Cat. West Ind. Birds, 1892, 83 (Cuba; St. Croix).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 84 (Trinidad).—SAUNDERS, Bull. Brit. Orn. Club, no. xxv, 1895, p. xxv (crit.); Cat. Birds Brit. Mus., xxv, 1896, 153, part (Tampico, Tamaulipas, Feb.; Rio Lagarto and Progreso, Yucatan, June; Cozumel Island, Feb.; etc., except spec. from Acapam, Guatemala).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 416, part (Matamoros Lagoon and Tampico, Tamaulipas; City of Mexico?; Guana-justo?; Rio Lagarto, Progreso, and Cozumel Island, Yucatan; Los Sabalos, Nicaragua?; Trinidad; West Indies).—REISER, Denkschr. Mat.-Nat. Kl. K. Ak. Wiss. Wien, lxxvi, 1910, 98 (Rio São Francisco and Ilha Grande, n. e. Brazil).

R[hynchops] nigra COUES, Key N. Am. Birds, 2nd ed., 1884, 772.

Rhynchops nigra TEMMINCK, Cat. Syst., 1807, 181.

Rhynchops nigra SONNINT, Nouv. Dict. d'Hist. Nat., iii, 1816, 337.—GUNDLACH, Journ. für Orn., 1862, 180 (Cuba).

[*Rhynchops*] *nigra* GUNDLACH, Journ. für Orn., 1861, 348 (Cuba).

Rhynchops nigra BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 352.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 264.—AUDUBON, Birds Am., fol., iv, 1838, pl. 323.

R[hincops] nigra BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [207].

[*Rynchops*] *fulva* LINNÆUS, Syst. Nat., ed 10, i, 1758, 138 (Guiana; based on *Rynchopsalia fulva*, rostro nigro, Barrère, "av. 10").—GMELIN, Syst. Nat., i, pt. ii 1789, 611.

[*Rhynchops nigra*] β. LATHAM, Index Orn., ii, 1790, 803 (= *R. fulva* Linnæus).

R[hynchops] borealis SWAINSON, Anim. in Menag., 1838, 340 (new name for "*niger* Auct.").

RYNCHOPS NIGRA INTERCEDENS (Saunders).

SOUTHERN SKIMMER.

Similar to *R. n. nigra*, but averaging much larger, white of under wing-coverts usually tinged with pale brownish gray (at least the more

posterior ones), and usually (?) with more of brownish gray on median portion of lateral rectrices.^a

Adult male.—Wing, 385–412 (402.8); tail, 112–133.5 (124.3); culmen, 74–83.5 (78.7); greatest depth of bill, 28.5–31 (29.8); tarsus, 33.5–37 (34.7); middle toe, 20.5–25 (23.3).^b

Adult female.—Wing, 382; tail, 119.5; culmen, 66; greatest depth of bill, 24.5; tarsus, 28; middle toe, 17.^c

Seacoasts and larger inland waters of southern Brazil (São Paulo; Iguapé, São Paulo; Santa Catarina; Rio Araguaya; Espirito Santo), Paraguay (Rio Pilcomayo; La Paz, Jan. 29; Gran Chaco), Uruguay, and Argentina (Buenos Aires; Conchitas, Buenos Aires; Avellaneda; Rio Paraná); also, Pacific coast of Mexico and Central America (San Blas, Tepic; Rio Zacatula, Colima, April; Manzanillo, Colima, Feb. 11; San Mateo, Oaxaca?; Acapám, Guatemala, Jan.).^d

^aAn adult male from Paraguay, which in large size agrees closely with this form, has the under wing-coverts wholly pure white and has no more gray on the lateral rectrices than some specimens of *R. n. nigra*.

^bSix specimens.

^cOne specimen.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Three adult males of <i>R. n. intercedens</i> Paraguay (2) and southern Brazil (1).....	408.3	128.5	82	30.5	34.2	22.7
Three adult males of <i>R. n. intercedens</i> from Pacific coast of Mexico (2) and Guatemala (1).....	396.3	120.2	75.5	29.2	35.3	24
Ten adult males of <i>R. n. nigra</i>	381.7	124.3	68.1	28.1	32.9	22.6
Two presumed adult males of <i>R. cinerascens</i>	413.3	123.8	87.2	31.3	36	23.8
FEMALES.						
One adult female of <i>R. n. intercedens</i> from Argentina.....	382	119.5	66	24.5	28	17
Four adult females of <i>R. n. nigra</i>	346	106.6	55	22.9	27.6	18.4
Seven presumed adult females of <i>R. cinerascens</i>	377	117.4	67.1	24.9	35.7	20.7

Unfortunately none of the specimens of *R. cinerascens* and none of the South American examples of *R. nigra intercedens* have the sex determined; but each is readily divisible into two series according to size, in all probability representing males and females, respectively, the sexual difference in size being almost certainly as well-marked in these two forms as in *R. nigra nigra*.

^dNotwithstanding the anomalous distribution outlined above, I am unable to distinguish satisfactorily specimens from the Pacific coast of Mexico and Central America (none have been examined, however, from the coast of Oaxaca) from true *R. n. intercedens*. Most certainly they are not *R. n. nigra* nor *R. cinerascens*. Possibly a comparison of larger series from both the Atlantic coast of southern Brazil, etc., and Pacific coast of Mexico and Central America may show differences sufficient to warrant the subspecific separation of the latter.

Rhynchops nigra (not Linnæus) MAXIMILIAN, Beitr. Naturg. Bras., iv, 1833, 877 (Espírito Santo, s. Brazil).—DARWIN, Zool. Voy. 'Beagle,' iii, 1839, 161 (coast Uruguay); ed. 1841, iii, 143, part (habits).—HARTLAUB, Index Azara's Apunt., 1847, 26 (Paraguay).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 454; Journ. für Orn., 1860, 267 (Rio Parana, Argentina); Reis. La Plata, ii, 1861, 250 (Rio Parana).—SALVIN, Ibis, 1865, 193 (Acapam, Guatemala); 1866, 200 (Acapam, Guatemala).—PELZELN, Orn. Bras., 1870, 324, 461, part.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 566, part (monegr.).—LAWRENCE Mem. Bost. Soc. N. H., ii, 1874, 318 (San Blas, Tepic; Rio Zacatula, Colima).—BERLEPSCH, Journ. für Orn., 1874, 279 (Santa Catarina, s. Brazil; synonymy; crit.); 1887, 37 (Rio Pilcomayo, Paraguay), 126 (Paraguay).—WHITE, Proc. Zool. Soc. Lond., 1882, 628 (Buenos Aires).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 153, part (Acapam, Guatemala, Jan.).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, iii, 1903, 416, part (San Blas, Tepic; Rio Zacatula, Colima; San Mateo, Oaxaca?; Acapam, Guatemala).

Rhynchops nigra DURNFORD, Ibis, 1877, 200 (Buenos Aires).

Rhynchops melanura (not of Swainson) SCLATER and HUDSON, Argentine Orn., ii, 1889, 193.

Rhynchops intercedens SAUNDERS, Bull. Brit. Orn. Club, no. 25, March, 1888, p. xxvi (São Paulo, s. e. Brazil; coll. Brit. Mus.); Cat. Birds Brit. Mus., xxv, 1896, 155 (São Paulo and Santa Catarina, s. e. Brazil; Buenos Aires, Argentina).—KERR, Ibis, 1901, 236 (Gran Chaco, Paraguay).—HARTERT, and VENTURI, Novit. Zool., xvi, 1909, 254 (Avellaneda, etc., Argentina, Dec.; crit.).

Rhynchops intercedens HELLMAYR, Novit. Zool., xv, 1908, 102 (Rio Araguaya, Brazil; crit.).

[*Rhynchops*] *intercedens* SHARPE, Hand-list, i, 1899, 138.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 56.

Rhynchops nigra intercedens IHERING, Revista Mus. Paulista, iii, 1899, 442 (Iguape, São Paulo, s. Brazil); iv, 1900, 106 (São Paulo); vi, 1904, 344 (Paraguay).—BERTONI, Fauna Parag., 1913, 38.

Rhynchops nigra subsp. *intercedens* DABBENE, Orn. Argentina, July 16, 1910, 212.

RYNCHOPS CINERASCENS Spix.

DUSKY-TAILED SKIMMER.

Similar to *R. nigra intercedens*, but adults with under wing-coverts wholly deep sooty gray, axillars light gray, secondaries very narrowly tipped with white, and tail deep sooty, the rectrices (except middle pair) very narrowly edged with whitish.

Adults in summer (sexes alike).—Forehead, entire loreal, suborbital and malar regions and under parts immaculate white, shading into brownish gray or under tail-coverts which, however, are whitish on margins; axillars and proximal under wing-coverts light brownish gray, the remaining under wing-coverts much deeper brownish gray, becoming blackish along edge of wing, the inner webs of remiges deep brownish gray passing into dusky terminally; crown (including posterior portion of forehead), occiput, nape, hindneck, auricular and orbital regions (narrowly in front of and beneath eyes) and upper parts generally plain black or sooty black, the secondaries narrowly and not abruptly tipped with white, the lateral upper tail-coverts with

outer webs brownish gray passing into white or grayish white on edges; tail deep brownish gray, the outer webs of rectrices narrowly edged with whitish; basal half (approximately) of bill pale yellowish or brownish (red in life?), the terminal portion blackish; legs and feet pale brownish (red in life?).

Immature.—"Like the above [adult male in breeding plumage], but with an irregular collar mottled with dull white, a mottled dark brown crown and nape; some brownish streaks on the cheeks and forehead."^a

Young.—"Forehead and cheeks dirty white, profusely streaked with brown; crown, nape, and upper surface dull umber-brown; the features of the mantle, wings, and tail bordered and tipped with buff and grayish white."^a

Adult male.—Wing, 400–430 (414.3); tail, 115–137 (123.8); culmen, 84.5–89 (87.2); greatest depth of bill, 31–31.5 (31.3); tarsus, 33.5–37.5 (36); middle toe, 23.5–24 (23.8).^b

Adult female.—Wing, 356–392 (377.6); tail, 109–126 (117.4); culmen, 63–77 (67.1); greatest depth of bill, 23–28.5 (24.9); tarsus, 28.5–33.5 (31.4); middle toe, 18.5–23.5 (20.7).^c

Coasts and inland waters of nearly the whole of South America, from Colombia (Dique, Rio Magdalena), through Venezuela (mouth of Rio San Juan; Caicara), British Guiana (Rupurumi River, Feb.; Oururnei, Dec.), Dutch Guiana, Brazil (Amazon River; Mexiana Island, Dec.; Rio Juruá, São Paulo; São Paulo), Paraguay (Colônia Risso; near Puerta Braza), Argentina (San Vicente; Rio Amores, Nov.; Rio de la Plata; Cape San Antonio; Ricacho Aucho), to Straits of Magellan, and northward along the Pacific coast of Chile (Viña del Mar, near Valparaiso; Coquimbo Bay, Nov.; Ancud; Chañaral; island of Chiloe), Peru (Callao Bay; Chorillos) and Ecuador (Babahoyo); also upper tributaries of the Amazon River in eastern Ecuador and eastern Peru (Rio Huallaga, at Yurimáguas, Nov.; lower Rio Ucayali, breeding; upper Rio Ucayali), island of Trinidad (Port of Spain), and casual at Cozumel Island, Yucatan, and at Lake Titicaca, Peru.

Rhynchops nigra (not *Rynchops nigra* Linnaeus) LICHTENSTEIN, Verz. Doubl. 1823, 80, part (Paraguay; cites "*Coupeur d'eau Azar[a]* 408").

Rhynchops nigra LESSON, Man. d'Orn., 1828, 385 (Chile).—FRASER, Proc. Zool. Soc. Lond., 1843, 119 (Chile).—GRAY, List Birds Brit. Mus., Anseres, 1844, 174. —TSCHUDI, Fauna Peruana, Aves, 1846, 53, 307 (coast of Peru). —SCLATER, Proc. Zool. Soc. Lond., 1858, 77 (e. Ecuador). —SCHLEGEL, Mus. Pays-Bas, Sternae, 1863, 39 (South America). —PELZELN, Reis. 'Novara'-Exped., 1865, 151 (Chile); Orn. Bras., 1870, 324, 461, part; Verh. z.-b. Ges. Wien, 1873, 159 (Callao, Peru). —SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1873, 310 (lower Rio Ucayali and Rio Huallaga, e. Peru). —ALLEN, Bull. Mus. Comp.

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 157.

^b Three specimens, sex undetermined but almost certainly males.

^c Seven specimens of undetermined sex but probably female.

- Zool. iii, 1876, 359 (Lake Titicaca, Peru, 1 spec.).—TACZANOWSKI and BERLEPSCH, Proc. Zool. Soc. Lond., 1885, 120 (Babahoyo, w. Ecuador).—PHILIPPI, Ornith., vol. 4, 1888, 160 (Chañaral, coast n. Chile).
- R[hynchops] nigra* TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 314 (Peru).
- [*Rhynchops*] *nigra* GRAY, Hand-list, iii, 1871, 124, no. 11092, part.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 310, part (Upper Amazonas).
- Rhynchops nigra* WYATT, Ibis, 1871, 384 (Dique, upper Rio Magdalena, Colombia).
- Rhynchops cinerascens* SPIX, Av. Sp. Nov. Bras., ii, 1825, 80, pl. 102 (Rio Amazon, Brazil).—REICHENBACH, Natatores, 1848, pl. 18, fig. 255.
- Rhynchops nigra cinerascens?* BERLEPSCH and HARTERT Novit. Zool., ix, April, 1902, 132 (Caicara, Venezuela; crit.).
- Rhynchops nigra cinerascens* IHERING, Revista Mus. Paulista, iv, 1904, 452 (Rio Jurua, São Paulo, s. Brazil).—BERLEPSCH, Novit. Zool., xv, 1908, 310 (Surinam; Brit. Guiana; mouth of Amazon River).—BEEBE, Zoologica, i, 1909, 74 (mouth of Rio San Juan, Venezuela).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 254 (San Vicente and Rio Amores, Argentina, Nov.; crit.).
- Rhynchops nigra cinerascens* HELLMAYR, Abh. K. B. Akad. Wiss., ii Kl., xxii. Bd., iii. Abth., 1905, 715 (crit.).—DABBENE, Bol. Soc. Phys. Buenos Aires, i, 1913, 243 (Rio de la Plata).
- Rhynchops nigra cinerascens* (?) HELLMAYR, Novit. Zool., xiii, 1906, 55 (Port of Spain, Trinidad; crit.).
- Rhynchops cinerascens* DABBENE, Bol. Soc. Phys. Buenos Aires, i, 1913, 257 (San Vicente and Rio Amores, Argentina).
- [*Rhynchops*] *melanurus* SWAINSON, Classif. Birds, ii, 1837, 373 (founded on Anim. Menag., no. 175).
- Rhynchops melanurus* SWAINSON, Anim. in Menag., 1838, 340, no. 175 (coast of Demerara).
- Rhynchops melanura* REICHENBACH, Natatores, Novit., 1850, lxxviii, pl. 331, fig. 2623.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 201 (lower Rio Ucayali; descr. eggs); 1867, 593; 1871, 566 (Mexiana Island, mouth of Amazon River); Ibis, 1869, 234 (Ancud, Chiloe, and Straits Magellan).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 562 (Chorillos, Peru); Orn. du Pérou, iii, 1886, 437.—SAUNDERS, Proc. Zool. Soc. Lond., 1882, 522 (Coquimbo Bay, Chile; crit.); Cat. Birds Brit. Mus., xxv, 1896, 156 (Cozumel Island, Yucatan; Venezuela; Brit. Guiana; Surinam; Mexiana Island; lower and upper Rio Ucayali, and Yurimagus, Rio Hualaga, s. Peru; Straits Magellan and Coquimbo Bay, Chile; Callao Bay, Peru).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Callao Bay, Peru).—KOENIGSWALD, Journ. für Orn., 1896, 39 (São Paulo, s. Brazil).—IHERING, Revista Mus. Paulista, iv, 1900, 294 (descr. eggs).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 417 (Cozumel Island; etc.).—GRANT (C. H. B.), Ibis, 1911, 470 (Cape San Antonio and Riacho Aucho, Argentina, Dec., Aug.; Colonia Rizzo and near Puerta Braga, Paraguay, Sept.).
- R[hynchops] melanurus* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 761.
- [*Rhynchops*] *melanura* PELZELN, Orn. Bras., 1870, 461.—SHARPE, Hand-list, i, 1899, 138.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 56 (Chile).
- R[hynchops] melanura* RIDGWAY, Man. N. Am. Birds, 1887, 49.
- Rhynchops melanura* HOLMBERG, Segundo censo Argentina, i, 1898, 559.
- Rhynchops brevirostris* SPIX, Av. Sp. Nov. Bras., ii, 1825, 81, pl. 103 (Brazil).—REICHENBACH, Natatores, 1848, pl. 18, fig. 256.
- Rhynchops fulva* (not *Rhynchops fulva* Linnæus) BOIE, Isis, 1844, 191 (Guiana).

Family STERNIDÆ.

THE TERNS.

- =*Sterninæ* BONAPARTE, Geog. and Comp. List Birds Europe and N. Am. 1838, 61; —LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 837, 858. —CARUS, Handb. Zool., i, 1868, 362. —COUES, Proc. Ac. Nat. Sci. Phila., 1869, 214, Key, 1872, 317; 2d ed., 1884, 734, 754. —SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147. —BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 196, 197. —SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, xiii, 3, 4. —AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 92. —GADOW, in Bronn's Thier-Reich, Vög., ii, 1891, 205. —BEDDARD, Struct. and Classif. Birds, 1898, 356. —SHARPE, Hand-list, i, 1899, xiv, 133. —SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 397. —KNOWLTON, Birds of the World, 1909, 390.
- =*Sternidæ* REICHENOW, Vög. Zool. Gart., i, 1882, 27.

Medium-sized to very small Lari with the bill nearly straight, relatively narrow (vertically), with terminal portion of culmen not strongly if at all decurved, its depth at gonydeal angle usually less (never more) than at middle of nostril, the exposed culmen at least one and one-fourth times (sometimes nearly three times) as long as tarsus; feet relatively small, the tarsus little if any more than one-ninth (usually less than one-tenth, sometimes only one-nineteenth) as long as wing; tail usually (often deeply, sometimes excessively) forked, rarely graduated; thigh-muscle formula with B (except in *Gygis*); expansor secundariorum muscle absent (except in *Anous*); pterylosis typically charadriine.

The Sterniidæ are closely related to the Laridæ, but seem to be sufficiently distinct to merit family rank. Although single characters often occur in both groups, every species is, nevertheless, distinctly and unmistakably either a Tern or a Gull.

The Sternidæ are as a rule birds of smaller size, lighter build, and more graceful form and actions than the Laridæ, and obtain their food in a different manner, pouncing suddenly on it from the air and striking it with their sharp bills. From this habit the vernacular name "Striker" is applied to them on the coast of Virginia and elsewhere. Their nidification is closely similar to that of the Laridæ.

KEY TO THE GENERA OF STERNIDÆ.

- a. Tarsus longer than first two phalanges of middle toe, more than one-fifteenth as long as wing, more than one-third (usually one-half or more) as long as exposed culmen, the latter more or less decurved terminally; webs between anterior toes not deeply incised; coloration not wholly white.
- b. Tail simply forked (more or less deeply), the lateral pair of rectrices longest or equal to the longest.
- c. Frontal feathering advancing farthest anteriorly on sides of maxilla, where forming a distinct (though sometimes obtuse) angle immediately behind nostril.

- d. Feet with webs occupying more than half the length of interdigital spaces; tail much more than one-third as long as wing, forked for more than one-fifth its length, the outer pair of rectrices narrowed and more or less acuminate terminally.
- e. Feathers of occiput elongated, forming a distinct erectile crest; bill relatively larger or longer.
- f. Occipital feathers broad and blanded; tarsus decidedly longer than middle toe with claw; tail forked for less than one-fourth its length; bill very stout, its greatest depth equal to about one-third the length of exposed culmen; inner webs of primaries unicolored.
- Hydroprogne (p. 460).
- ff. Occipital feathers narrow, acuminate (lanceolate); tarsus not longer than middle toe with claw; tail forked for about half its length; bill more slender, its greatest depth much less than one-third the length of exposed culmen; inner webs of primaries bicolored.
- Thalasseus (p. 466).
- ee. Feathers of occiput not elongated; bill relatively smaller.
- f. Bill relatively shorter and much stouter, its greatest depth equal to nearly one-third the length of exposed culmen; gonys much shorter than mandibular rami; tail forked for only one-third its length; tarsus decidedly longer than middle toe with claw...Gelochelidon (p. 478).
- ff. Bill relatively longer and much more slender, its greatest depth less than one-fourth the length of exposed culmen; gonys nearly to quite as long as mandibular rami; tail forked for half its length, or more; tarsus not longer (usually shorter) than middle toe with claw.
- g. Tail more than half as long as wing; size larger (wing 230 mm. or more).
- Sterna (p. 485).^a
- gg. Tail not more than half as long as wing; smaller (wing not more than 180 mm.).....Sternula (p. 520).
- dd. Feet with webs occupying less than half the length of the interdigital spaces; tail little if any more than one-third as long as wing, forked for less than one-fifth its length the lateral rectrices broad and rounded terminally.....Hydrochelidon (p. 526).
- cc. Frontal feathering advancing farthest anteriorly on or near base of culmen (if forming an obvious lateral angle this very short and obtuse and placed much above level of nostril).
- d. Frontal feathering slightly concave or indented at base of culmen; gonys much shorter than mandibular rami; no plumes on sides of head; under parts white.
- e. Tail much more than half as long as wing, forked for more than half its length, the lateral rectrices narrow and acuminate; inner webs of primaries unicolored.....Seena (extralimital).^b
- ee. Tail much less than half as long as wing (but little more than one-third), forked for less than one-third its length, the lateral rectrices broad and only subacuminate at tips; inner webs of primaries bicolored.
- Phaëtusa (p. 540).

^a Including *Onychoprion*, which I am unable to separate generically.

^b *Seena* Blyth, Cat. Birds Mus. Asiat. Soc., 1849, 291 (type, by tautonymy, *Sterna seena* Sykes).—*Potamocheilidon* Heine, in Heine and Reichenow, Nomencl. Mus. Hein. Orn., 1890, 355 (to replace *Seena* Blyth, on grounds of purism. Ποταμός, river; χελιδών, a swallow; Richmond.)

India to Malacca. (Monotypic.)

- dd. Frontal feathering forming a straight line across base of culmen; gonyes longer than mandibular rami; a slender, recurved, auricular plume on each side of head; under parts dark-colored.

Larosterna (extralimital).^a

- bb. Tail both forked and graduated, the lateral rectrices much shorter than the longest, sometimes shorter than middle pair.

- c. Lateral rectrices shorter than middle pair; middle toe, without claw, much shorter than exposed culmen; coloration sooty above and below, only the pileum and hindneck (wholly or in part) white or gray.

- d. Gonyes shorter than mandibular rami; tail more graduated, the lateral rectrices conspicuously shorter than middle pair, the third or fourth pairs (from outside) longest *Anous* (p. 544).

- dd. Gonyes much longer than mandibular rami; tail less graduated, the lateral rectrices not conspicuously shorter than middle pair, the second, or second and third, pairs (from outside) longest.

Megalopterus (p. 552).

- cc. Lateral rectrices longer than middle pair; middle toe, without claw, longer than exposed culmen; coloration bluish gray, paler on head, neck, and under parts *Procelsterna* (extralimital).^b

- aa. Tarsus not longer than first two phalanges of middle toe, only about one-nineteenth as long as wing, less than one-third as long as exposed culmen, the latter straight to the acute (sometimes slightly recurved) tip; webs between anterior toes deeply incised; coloration wholly white (except shafts of remiges and rectrices). *Gygis* (p. 557).

Genus HYDROPROGNE Kaup.

Hydroprogne KAUP, Skizz Entw.-Ges. Eur. Thierw., 1829, 91. (Type, as designated by Gray, 1846, *Sterna caspia* Pallas.)

Sylochelidon BREHM, Vög. Deutschl., 1831, 767. (Type, by original designation, *Sterna caspia* Pallas.)

Helopus WAGLER, Isis, 1832, 1224. (Type, by original designation, *Sterna caspia* Pallas.)

Pontochelidon HOGG, Edinb. New Philos. Journ., xli, no. 81, July, 1846, 55, 69. (Type, as designated by Mathews, 1915, *Sterna caspia* Pallas; see Mathews, Austral Avian Rec., ii, 1915, 133.)

Heroprogne BULLER, Suppl. Birds New Zealand, i, 1905, 157. (Misspelling only.)

Very large (the largest of) Sternidæ (wing 400–423 mm.) with large, stout bill, slightly forked tail, and with occipital feathers elongated but blended (not lanceolate).

Bill relatively large and very stout, its depth at base equal to nearly half the distance from anterior end of nostril to tip of maxilla or nearly one-third the length of exposed culmen, the latter about as long as combined length of tarsus and first two phalanges of middle

^a *Naenia* (not *Nænia* Stephens, 1829) Boie, Isis, 1844, 189 (type, by monotypy, *Sterna inca* Lesson).—*Sternolophota* "Lesson," Bonaparte, Compt. Rend., xliii, no. 21, Nov., 1856, 993.—*Larosterna* Blyth, Cat. Birds Mus. Asiat. Soc., 1849 (1852), 293 (type, by monotypy, *Sterna inca* Lesson).—*Inca* (not of Lepeletier and Serville, 1825) Jardine, Contr. Orn., 1850, 33 (type, by tautonymy, *Sterna inca* Lesson).

Coasts of Chile and Peru. (Monotypic.)

^b *Procelsterna* Lafresnaye, Mag. de Zool. (2), Ois., pl. 29 and descr. (type, *P. tereticollis* Lafresnaye=*Sterna cærulea* F. D. Bennett).

Southern Pacific Ocean, north to Hawaiian group. (Three species.)

toe, the gonyes more than half as long as mandibular rami; nostril considerably anterior to latero-frontal antia, narrowly elliptical, longitudinal; latero-frontal antia nearer to vertical line from mental antia than to that from malar antia. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by nearly twice the distance from tips of the latter to bend of wing. Tail a little more than one-third as long as wing, forked for between one-fourth and one-third its length, or even less, the rectrices (except middle pair) contracted terminally, especially the outermost pair, but not acuminate. Tarsus longer than middle toe with claw, nearly half as long as bill from rictus; anterior toes fully webbed.

Plumage and coloration.—Occipital feathers distinctly but not conspicuously elongated, soft and blended. Adults pale gray above with black pileum, under parts immaculate white; inner webs of primaries unicolored, or at least not distinctly bicolored; bill red; downy young unspotted.

Range.—Nearly cosmopolitan, but wanting in Central and South America, West Indies, and Pacific islands. (Monotypic.)

HYDROPROGNE CASPIA (Pallas).

CASPIAN TERN.

Adults in breeding plumage (sexes alike).—Entire pileum, including upper half of lores and auricular region and part of suborbital region, uniform deep black, the lower eyelid with a crescentic streak of white; rest of upper parts pallid neutral gray, fading into white on upper tail-coverts, the tail grayish white; inner webs of primaries uniform dark hoary gray or slate color; rest of plumage immaculate pure white; bill deep coral red, duller subterminally, the tip orange or yellowish; iris dark brown; legs and feet black.

Adults in post-nuptial plumage.—Similar to the breeding plumage but black on pileum more or less intermixed with white.

Adults in winter.—Similar to the post-nuptial plumage but with pileum, etc., streaked with white; bill more orange-red.

Young.—Upper parts pale grayish with a few roundish or more or less hastate spots of dusky, largest on tertials; pileum grayish white, the crown flecked with black, this increasing in extent posteriorly until nearly uniform dull black on occiput and nape; rectrices with a subterminal spot of dusky; under parts white; bill dull orange-reddish, more dusky terminally or subterminally.

Downy young.—Upper parts grayish white, the down of pileum dusky gray beneath surface; back and rump finely and indistinctly mottled with grayish; throat and foreneck uniform pale grayish, the remaining under parts white.

Adult male.—Wing, 400–422 (411.1); tail, 130–150 (137.9); exposed culmen, 65–75 (69.4); tarsus, 40.5–46 (43.2); middle toe, 31.5–36 (34.5).^a

Adult female.—Wing, 404–423 (416); tail, 135–148 (140.2); exposed culmen, 64–70 (67.5); tarsus, 40–44 (42.4); middle toe, 32.5–34 (33.4).^b

Nearly cosmopolitan, but not recorded from Japan, Greenland, Iceland, nor Pacific islands; in North America breeding in Mackenzie (mouth of Mackenzie River; Great Slave Lake), coast of southern Labrador, islands of northern Lake Michigan (Gravel Island, etc.), coast of Virginia (Cobb's Island, formerly at least), coast of South Carolina, Mississippi, Louisiana, and Texas (Padre Island), and southern Oregon (Lower Klamath Lake; Tule Lake), probably also (at least formerly) Utah (Great Salt Lake) and Nevada (Sink of Humboldt River); occurs irregularly or casually nearly throughout North America (locally), northwestward to Yukon Valley and St. Michaels, Alaska, on James Bay, and in Newfoundland; winters on South Atlantic and Gulf coasts of United States and on Pacific coast from central California to Colima, western Mexico; in Eastern Hemisphere breeding in Albania (Dobrudscha), shores and islands of Caspian Sea, western Africa (mouth of Zambesi River), Australia, and Tasmania, and occurs, irregularly or locally, from about latitude 60° N. to southern Africa, Madagascar, Ceylon, Australia, Tasmania, New Zealand, etc.

Sterna caspia PALLAS, Novi Comm. Acad. Sci. Imp. Petrop., xiv, pt. i, 1770, 582, pl. 22, fig. 2 (Caspian Sea); Zoogr. Rosso-Asiat., ii, 1826, 332.—BECHSTEIN, Naturg. Deutschl., ii, 1791, 825.—RETZIUS, Fauna Suecica, 1800, 164.—TEMMINCK, Man. d'Orn., 1815, 476; ed. 2, 1820, 733; 4me pte, 1840, 454.—NILSSON, Fauna Suecica, 1817, 155.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 177.—BREHM, Beitr. Vogelk., iii, 1822, 630; Lehrb. Eur.

^a Ten specimens.

^b Four specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Germany.....	400	136.5	69	40.5	34.5
One adult male from Algeria.....	416	140.5	75	43	33.5
One adult male from Great Slave Lake, Mackenzie.....	402	145	68	43.5	35
Five adult males from eastern United States.....	415.2	132.6	69.3	42.6	34.3
One adult male from California (Tule Lake, July 8).....	411	144	67	46	35
One adult male from Sonora (Colorado River, March 28).....	416	150	69	46	36
FEMALES.					
One adult female from Great Slave Lake.....	416	148	64	43.5	32.5
Three adult females from eastern United States.....	416	137.7	68.7	42	33.7

Vög., 1824, 680.—STEPHENS, in Shaw's Gen. Zool., xiii, pt. 1, 1825, 146.—WERNER, Atlas, Palmipèdes, 1828, pl. 2.—AUDOUIN, Hist. Nat. Egypte, 1826, pl. 9, fig. 1; in Expl. Sonnini, 2d ed., 1828, 416.—LESSON, Traité d'Orn., 1831, 622.—SELBY, Brit. Birds, ii, 1833, 463.—JENYNS, Man. Brit. Vertebr., 1835, 264.—EYTON, Cat. Brit. Birds, 1836, 54.—GOULD, Birds Europe, v, 1837, pl. 414 and text.—NAUMANN, Vög. Deutschl., x, 1840, 18, pl. 248.—SCHINZ, Eur. Faun., i, 1840, 370.—MACGILLIVRAY, Man. Brit. Birds, pt. ii, 1842, 230.—SELYS-LONGCHAMPS, Faune Belge, 1842, 149.—YARRELL, Brit. Birds, iii, 1843, 385; ed. 2, iii, 1845, 493.—SCHLEGEL, Rev. Crit., 1844, p. cxxviii; Vog. Nederl., 1854, 612, pl. 360; Dier. Nederl. Vogels, 1861, 241; Mus. Pays-Bas, vi, no. 24, 1864, 13.—HEWITSON, Eggs Brit. Birds, ii, 1846, 421, pl. 97.—REICHENBACH, Natatores, 1848, pl. 18, figs. 258-260.—DEGLAND, Orn. Eur., ii, 1849, 337.—KJÆRBØLLING, Danm. Fugle, 1852, 326, pl. 40A; Suppl., 1854, pl. 20, figs. 1, 2.—BAIRD, in Stansbury's Rep. Expl. Great Salt Lake, 1852, 335 (Atlantic coast United States); Cat. N. Am. Birds, 1859, no. 682.—HARTLAUB, Orn. W.-Afr., 1857, 253 (Gambia); Fauna Madag., 1861, 85 (Madagascar); Vög. Madag., 1877, 382.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 859.—LINDERMAYER, Vög. Griechenh., 1860, 81.—VERRILL, Proc. Essex Inst., iii, 1862, 161 (Maine).—RADDE, Reis. Sibir., Vög., 1863, 388.—BLAKISTON, Ibis, 1863, 153 (Mackenzie River).—SALVADORI, Ucc. Sard., 1865, 120.—LAYARD, Birds S. Africa, 1867, 269.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 448.—ELWES and BUCKLEY, Ibis, 1870, 337 (coast Albania; breeding on marshes of Dobrudscha).—HOMMEYER, Journ. für Orn., 1870, 438 (e. Siberia).—FINSCH, Journ. für Orn., 1870, 364 (New Zealand); 1872, 253 (New Zealand).—FINSCH and HARTLAUB, Vög. Ost-Afr., 1870, 826.—GURNEY, in Andersson's Birds Damara-Land, 1872, 359; Zoologist, 1887, 457 (England).—HARTING, Handb. Brit. Birds, 1872, 167.—SHELLEY, Birds Egypt, 1872, 296.—HEUGLIN, Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1434.—PALMÉN, Finlands Fogl., 1873, 564.—BROOKE, Ibis, 1873, 345 (Sardinia).—COUES, Check List, 1873, no. 591; 2d ed., 1882, no. 793; Bull. Nutt. Orn. Club, viii, 1883, 62 (Cincinnati, Ohio, 3 specs., Oct. 9, 1882; Little Miami River, Ohio, Oct. 15).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 656 (monogr.).—DRESSER, Birds Europe, viii, 1877, 289, pl. 584.—SENNETT, Bull. U. S. Geol. & Geog. Surv. Terr., iv, 1878, 65 (Galveston, Texas).—TAYLOR, Ibis, 1878, 374 (Port Said and Damietta, Egypt).—HENSHAW, Bull. Nutt. Orn. Club, iv, 1879, 243 (Cobbs Island, Virginia, breeding; descr. downy young).—BOARDMAN, Bull. Nutt. Orn. Club, v, 1880, 64 (Lake Jesup, Florida, March).—RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 221 (Cobbs Island, Virginia, breeding; descr. nest and eggs); Nom. N. Am. Birds, 1881, no. 680.—LEGGE, Birds Ceylon, 1880, 1008.—PEARSALL, Bull. Nutt. Orn. Club, vi, 1881, 63 (Cobbs Island, Virginia, breeding; descr. nest and eggs).—NELSON, Cruise of 'Corwin,' in 1881 (1883), 109 (mouth of Yukon River, rare; not north of St. Michael's Alaska).—MILNE-EDWARDS and GRANDIDIER, Hist. Nat. Madag., Ois., 1882, 650.—SEEBOHM, Ibis, 1882, 230 (Seal Islands, Caspian Sea, breeding); Hist. Brit. Birds, iii, 1885, 268.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 182.—SHELLEY, Ibis, 1883, 562 (Bonny River, w. Africa).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 280.—SHARPE, ed. Layard's Birds S. Africa, 1884, 703; Rep. Voy. 'Alert,' 1884, 28.—DUTCHER, Auk, i, 1884, 34 (Shinnecock Bay, Long Island, Sept., 1882; six specs.).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 252 (Moose Factory, Ontario).—SAUNDERS, Man. Brit. Birds, 1889, 625.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 62; Vög. Deutsch. Ost-Afr., 1894, 20.—LILFORD, Ibis, 1889, 347 (Cyprus).—GÄTKE, Vogelw. Helgoland, 1891, 586.—FRIVALDSKY, Av. Hung., 1891, 179.—MADARÁSZ, Ausst. Ung. Vogelf., 1891, 121.—

- KOENIG, Journ. für Orn., 1893, 96 (Tunis).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 99; Check List, 3rd ed., 1910, p. 42.—POSSON, Auk, xvi, 1899, 193 (Kendall, w. New York, Sept., 1890).—BEYER, Proc. La. Soc. Nat. for 1897-99 (1900), 86 (resident on coast of Louisiana).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 23 (La Paz, Lower California, Jan. 25; crit.).—HOWE, Auk, xix, 1902, 91 (Ipswich, Massachusetts, Sept. 6, 1901).—POGGE, Journ. für Orn., 1902, 388 (n. e. China).—WARD (H. L.), Bull. Wisc. Nat. Hist. Soc., iv, 1906, 113-133 (Gravel Island, Lake Michigan, breeding; breeding habits, etc.).—TAVERNER and SWALES, Wilson Bull., no. 59, 1907, 50 (Point Pelee, Ontario, May, Aug., Sept.).—FINLEY, Condor, ix, 1907, 97, in text (Lower Klamath and Tule Lakes, s. Oregon, breeding).—LINTON, Condor, x, 1908, 196 (Buena Vista and Kern Counties, California, May, June).—PREBLE, N. Am. Fauna, no. 27, 1908, 271 (breeding n. to mouth of Mackenzie River).—TAVERNER, Auk, xxv, 1908, 327 (Lake St. Clair, Michigan, April 26).—JONES, Wilson Bull., xxi, 1909, 70 (Sandusky Bay, Ohio, Sept. 13 and 23, 1907, and May 4 and 12, 1908).—BROOKS (A.), Auk, xxix, 1912, 252 (Okanagan Lake, British Columbia, July 8, 1910).—LANO, Auk, xxix, 1912, 389 (Lake Minnetonka, Minnesota, 8 specs., Sept. 29, 1911).—SHARPLESS, Auk, xxx, 1913, 105 (near West Chester, Pennsylvania, 2 specs., Sept. 28, 1912).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 23 (California; winter visitor and migrant coastwise and in interior).
- [*Sterna caspia* Gmelin, Syst. Nat., i, pt. ii, 1789, 603.—LATHAM, Index Orn., ii, 1790, 808.—GRAY, Hand-list, iii, 1871, 120, no. 11050.—COUES, Key N. Am. Birds, 1872, 319.
- Sterna caspia* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 246.—HARTLAUB, Journ. für Orn., 1860, 175 (Madagascar).
- Sterna caspia* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 147 (Lake Michigan, near Chicago, migrant and winter visitant; Waukegan, Illinois, June 9, 1876).
- Thalasseus caspius* BOIE, Ibis, 1822, 563.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 537 (monogr.); Proc. Essex Inst., v, 1868, 308 (New England).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—ELLIOT, New and Unfig. N. Am. Birds, pt. 4, 1867 (vol. ii), pl. 56 and text.—OLP-GALLIARD, Contr. Faun. Orn. Eur. Occid., livr. x, 1886, 5.—SALVADORI, Ucc. Ital., 1887, 274.
- Hydroprogne caspia* KAUP, Natürl. Syst., 1829, 91, 196.—FRITSCHE, Vög. Eur., 1870, 454, pl. 54, fig. 11.—GOULD, Birds Great Brit., v, 1873, pl. 68 and text.—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 32.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 401 (Mazatlan and Presidio de Mazatlan, Sinaloa).—HARTERT, Novit. Zool., xii, 1905, 199 (Lewis Island, n. w. Australia).—MATHEWS, Birds Australia, ii, pt. 3, 1912, pl. [106] facing p. 333.
- [*Hydroprogne caspia* SHARPE, Hand-list, i, 1899, 134.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (Egypt; Persia; Gambia; Amoy, China; Actaeon Island, Tasmania; New Zealand).]
- Sylocheidon caspia* BREHM, Vög. Deutschl., 1831, 770.—BONAPARTE, Geog. and Comp. List, 1838, 62; Cat. Ucc. Eur., 1842, 72.—MACGILLIVRAY, Brit. Birds, v, 1852, 626.—BREHM, Vogelf., 1855, 345.—JERDON, Birds India, iii, 1864, 835.—GOULD, Handb. Birds Australia, ii, 1865, 392.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 196.—SALVADORI, Faun. Ital., Ucc., 1871, 278.—SWINHOE, Proc. Zool. Soc. Lond., 1871, 421 (China).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1871, 480 (Ceylon).—LEGGE, Ibis, 1875, 407 (s. Ceylon).—TACZANOWSKI, Bull. Soc. Zool. France, 1876, 261 (e. Siberia).—DAVID and OUSTALET, Ois. Chine, 1877, 522.—RAMSAY, Proc. Zool. Soc. Lond., 1877, 347 (n. e. Queensland).—GIGLIOLI, Ibis, 1881, 217 (Cagliari, Italy); Avif. Ital., 1886, 411.

Sylochelidon caspius LAWRENCE, ANN. Lyc. N. Y., v, 1852, 37 (Long Island; New Jersey; crit.).

Hel[opus] caspius WAGLER, Ibis, 1832, 1224.

Sterna (*Thalasseus*) *caspia* COUES, Birds Northwest, 1874, 667 (monogr.).

S[terna] (*T[halasseus]*) *caspia* COUES, Key N. Am. Birds, 2d ed., 1884, 757.

[*Sterna caspia*] β GMELIN, Syst. Nat., i, pt. ii, 1789, 604.—LATHAM, Index Orn., ii, 1790, 804.

Sterna caspia SPARRMAN, Mus. Carls., ii, fasc. 3, 1788, no. 62.—POWYS, Ibis, 1860, 356 (Corfu; Epirus).—KIRK, Ibis, 1864, 337 (mouth of Zambesi River, Africa, breeding).—KELLER, Orn. Carinthiae, 1890, 306.

Sylochelidon caspia REICHENBACH, Av. Syst. Nat., 1850, pl. 4; Longipennes, 1852, 5.

Thalasseus caspius ROCHEBRUNE, Faun. Sénégal, Ois, 1884, 336.

Hydroprogne caspia KAUP, Sk. Entw. Eur. Thierw., 1829, 91.

Sterna tschegrava LEPECHIN,^a Nov. Comm. Petrop., xiv, pt. i, 1770, 500, pl. 13, fig. 2 (south Russia).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1896, no. 64.—NELSON, Rep. Nat. Hist. Coll. Alaska, 1887, 58 (mouth of Yukon River and near St. Michaels, occasional visitant).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 644 (Corpus Christi, etc., Texas).—RHODES, Proc. Ac. Nat. Sci. Phila., 1892, 101 (Nueces Bay, Texas).—WHITE, Auk, x, 1893, 222 (Lake Michigan).—HARRISON, Wilson Bull., no. 12, 1897, 8 (La Crescent, Minnesota, 8 specs., Sept. 14, 20 specs. Sept. 15, 1896).

Hydroprogne tschegrava tschegrava MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 337 (shores of Caspian Sea, breeding).

Larus atricilla (not of Linnaeus) GMELIN (S. G.), Nov. Comm. Petrop., xv, 1771, 478, pl. 22, fig. 2 (Tscherkask).

Sterna megarhynchos WOLF and MEYER, Vög. Deutschl., ii, 1805, 33 and fig.—MEYER and WOLF, Taschenb. Deutsch. Vög., ii, 1810, 457 and fig.

Sterna schillingi BREHM, Beitr. Vogelk., iii, 1822, 641, pl. 4; Lehrb. Eur. Vög., 1824, 681.

Sylochelidon schillingi BREHM, Vög. Deutschl., 1831, 770; Vogelf., 1855, 345; Naumannia, 1855, 295.

Sylochelidon balthica BREHM, Vög. Deutschl., 1831, 769; Vogelf., 1855, 345; Naumannia, 1855, 295.

Thalassites melanotis SWAINSON, Birds West Africa, ii, 1837, 253 (w. Africa; type now in coll. Cambridge [England] Mus.).

Sylochelidon melanotis BOIE, Isis, 1844, 186.

[*Sylochelidon*] *melanotis* BONAPARTE, Compt. Rend., xlii, 1856, 772.

Sterna melanotis HARTLAUB, Orn. West-Afr., 1857, 254.—FORBES, Ibis, 1883, 500 (Bonny; large colony).

Sylochelidon macrorhyncha BOIE, Isis, 1844, 186.

Sylochelidon strenuus GOULD, Proc. Zool. Soc. Lond., (pub. May) 1846, 21 (s. coasts Australia; Bass Straits and Tasmania, breeding; coll. J. Gould?); Birds Australia, vii, 1848, pl. 22 and text.—REICHENBACH, Vög. Neuholl., ii, 1850, 9, 346.

[*Sylochelidon*] *strenua* BONAPARTE, Compt. Rend., xlii, 1856, 772.

Hydroprogne tschegrava strenua MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 333, 337 (Australia).

Sterna cayana (not of Latham) RICHARDSON, Journ. Boat-Voy., i, 1851, 87, 155 (Great Slave Lake, breeding).

Sterna major ELLMAN, Zool., 1861, 7472 (New Zealand).

^a Lepechin has anteriority over Pallas (see *Sterna caspia* Pallas), but of the six species described in his paper only three are binomial.

Thalasseus imperator COUES, Proc. Ac. Nat. Sci. Phila., Dec., 1862, 538, in text (North America, but neither type locality nor type indicated).

S[terna] . . . caspia, var. *imperator* RIDGWAY, Ann. Lyc. Nat. Hist. N.Y., x, Jan., 1874, 391 (Illinois).

Sterna caspia var. *imperator* MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 172 (Padre Island, Texas, breeding).

Sterna caspia . . . *imperator* COUES, Check List, 1873, no. 561.

Hydroprogne ischegrava imperator MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 337 (North America).

Sterna regia (not of Gambel) RIDGWAY, Bull. Essex Inst., v, 1873, 173 (Great Salt Lake, Utah, summer); vii, 1875, 16 (Truckee Valley, Nevada, May), 23 (Sink of Humboldt River, Nevada, summer); Orn. Fortieth Parallel, 1877, 639 (Sink of Humboldt, Great Salt Lake, etc.).

Genus THALASSEUS Boie.

Thalasseus BOIE, Isis, viii, 1822, 563. (Type as designated by Wagler, 1832, *Sterna cantiaea* Gmelin.=*S. sandvicensis* Latham.)

Thalasseus (emendation) BOIE, Isis, viii, 1822, 880.

Actocheilidon KAUP, Skizz. Entw.-Ges. Eur. Thierw., 1829, 31. (Type by monotypy, *Sterna cantiaea* Gmelin.=*S. sandvicensis* Latham.)

Pelecanopus WAGLER, Isis, 1832, 277, 1225. (Type, *Sterna pelecanaoides* King=*Sterna bergii* Lichtenstein.)

Pelanopus (emendation) GEAY, Hand-list Birds, iii, 1871, 120.

Large to very large Sternidæ (wing 268–391 mm.) with long and moderately stout to rather slender bill, deeply forked tail with lateral rectrices attenuated, occipital feathers elongated, lanceolate, forming a distinct crest, and inner webs of primaries distinctly bicolored.

Bill long and relatively rather (sometimes decidedly) slender, its depth at base equal to between one-fourth and one-third the distance from anterior end of nostril to tip of maxilla, the exposed culmen decidedly to much longer than combined length of tarsus and middle toe with claw; gonys shorter to much longer than mandibular rami; nostril close to but not in contact with latero-frontal antia, linear or narrowly elliptical, longitudinal; latero-frontal antia intermediate in position between malar and mental antia, but rather nearer the latter. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than twice the distance from tips of the latter to bend of wing. Tail nearly to more than half as long as wing, forked for a little less to decidedly more than half its length, the lateral rectrices slender and attenuated, but not acuminate, terminally. Tarsus decidedly longer than middle toe without claw; webs between anterior toes slightly but distinctly incised.

Plumage and coloration.—Occipital and nuchal feathers conspicuously elongated and lanceolate, forming a distinct erectile crest. Adults with pileum uniform black, the forehead and crown mostly white in breeding season; upper parts pale gray; under parts, rump, and tail white, the first often tinted with eosine pink; inner webs of primaries distinctly bicolored. Downy young with upper parts streaked or longitudinally flecked with blackish

Range.—Cosmopolitan, in warmer regions, mostly on sea-coasts. (About seven species, four of them American.)

KEY TO THE SPECIES OF *THALASSEUS* (ADULTS ONLY).

- a. Bill red or yellow.
 - b. Larger (wing 358–393); bill red. (Coasts of United States, northward regularly to Virginia and California; southward to Brazil and Peru; also west coast of Africa in winter.).....*Thalasseus maximus* (p. 467).
 - bb. Smaller (wing much less than 350).
 - c. Bill orange-red; gonydeal angle far anterior to nostril. (Pacific coast of America from California to Chile.).....*Thalasseus elegans* (p. 472).
 - cc. Bill lemon yellow; gonydeal angle very little anterior to nostril. (Atlantic coast of South America, from Venezuela to Patagonia.)
Thalasseus eurygnathus (p. 474).
- aa. Bill black, usually tipped with yellowish or whitish. (*Thalasseus sandvicensis*.)
 - b. White edging to three or four outer primaries much wider, extending quite to tip; wing and tail averaging decidedly longer? (Western and southern Europe and eastward to Caspian Sea; south in winter to Persian Gulf and Cape of Good Hope.).....*Thalasseus sandvicensis sandvicensis* (extralimital).^a
 - bb. White edging to three or four outer primaries much narrower, usually not extending to tip, which is occupied by an extension of the dark gray inner stripe; wing and tail averaging decidedly shorter? (Southern Atlantic and Gulf coasts of United States and Mexico; in winter, both coasts of Mexico and Central America, Bahamas, Greater Antilles, and southward to Brazil and Colombia.).....*Thalasseus sandvicensis acutirostris* (p. 476).

THALASSEUS MAXIMUS (Boddaert).

ROYAL TERN.

Adults in breeding(?) plumage (sexes alike).—Entire pileum, including occipital crest, nape, and upper half of lores, uniform deep black; rest of head and neck, under parts, rump, upper tail-coverts, and edge of wing immaculate pure white; back, scapulars and wings pale

^a[*Sterna*] *sandvicensis* Latham, Gen. Syn., Suppl. i, 1787, 296 (Kent, etc.).—[*Sterna*] *cantiaca* Gmelin, Syst. Nat., i, pt. ii, 1789, 606 (near Sandwich, England; based on *Sandwich Tern* Latham, Synop., vi, 356; etc.).—*Sterna cantiaca* Temminck, Man. d'Orn., 1815, 479; Werner, Atlas, Palmipèdes, 1828, pl. 3; Gould, Birds Eur., v, 1837, pl. 415 and text; Naumann, Vög. Deutschl., x, 1840, 50, pl. 250; Schlegel, Vog. Nederl., 1854, 611, pl. 359; Sclater and Salvin, Proc. Zool. Soc. Lond., 1871, 569, part (monogr.); Saunders, Proc. Zool. Soc. Lond., 1876, 653, part (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 75, part; Dresser, Birds Europe, viii, 1877, 301, pl. 586.—*Thalasseus cantiacus* Boie, Isis, viii, 1822, 563.—*Thalasseus cantiaca* Boie, Isis, viii, 1822, 880.—*Actocheilidon cantiaca* Kaup, Natürl.-Syst., 1829, 31, 196; Gould, Birds Great Brit., v, 1873, pl. 69 and text.—*Thalasseus cantianus* Brehm, Naumannia, 1855 295.—[*Sterna*] *boysii* Latham, Index Orn., ii, 1790, 806 (new name for *S. cantiaca* Gmelin).—*Sterna boysii* Temminck, Cat. Syst., 1807, 184.—*Sterna stubberica* Otto, in German ed. Buffon's Hist. Nat. Ois., xxx, 1790, 104.—(?) *Sterna columbina* Schranck, Fauna Boica, i, 1798, 232.—*Sterna canescens* Meyer and Wolf, Taschenb., ii, 1810, 458.—*Thalasseus canescens* Brehm, Vög. Deutschl., 1831, 776.—*Thalasseus candicans* Brehm, Vög. Deutschl., 1831, 777.—*Thalasseus pauli de wurtemberg* Brehm, Vogelf., 1855, 346 (Greece).—*Sterna sandvicensis sandvicensis* Baird, Brewer and Ridgway, Water Birds N. Am., ii, 1884, 289, footnote (ex *Sterna sandvicensis* Latham, Synop. Suppl., i, 1787, 296); American Ornithologists' Union, Check List, 1910, 43.

gray (pallid neutral gray, sometimes approaching pale neutral gray), the outer web of outermost primary darker gray; inner webs of primaries with a deep or dark gray broad stripe next to shaft, this dark gray continued across tips and for some distance along inner edge, the remainder white; tail grayish white, more or less tinged with pale gray; bill orange or reddish orange; iris dark brown; legs and feet black.

Adults in post-nuptial plumage.^a—Similar to the above but whole forehead and fore part of crown white, only the occipital crest, nape, and posterior portion of crown being black.

Adults in winter.—Similar to the post-nuptial(?) plumage, but black of occiput and nape also intermixed, more or less, with white, and bill paler orange.

Young.—Somewhat like winter adults, but upper parts sparsely spotted with dusky grayish brown, these spots largest on tertials; rectrices deep grayish brown or dusky subterminally; pileum speckled or flecked with white or dusky, the occipital crest but slightly developed.

Downy young.—Pale creamy buff, fading into white on chest, breast, and abdomen; upper parts streaked or irregularly flecked with black; bill pale yellowish or dull ivory whitish, more horn colored at tip; legs and feet grayish.

Adult male.—Wing, 360–382 (371); tail, 147.5–192 (171.9); exposed culmen, 59–68 (64.1); tarsus, 29.5–34.5 (31.8); middle toe, 25–28 (26.8)^b

Adult female.—Wing, 357–393 (374); tail, 130–196.5 (167.5); exposed culmen, 57.5–67 (62.7); tarsus, 30–34.5 (32.6); middle toe, 24.5–28.5 (27.1).^c

^a This species, sometimes at least, breeds in this plumage, which indeed, may be the true breeding plumage. A colony of several thousand pairs which I found breeding (the eggs freshly laid) on Cobbs Island, Virginia, early in July, 1880, consisted of birds which were all, so far as could be determined, with white forehead and fore crown.

^b Ten specimens.

^c Eighteen specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Virginia and South Carolina.....	372	183.8	66.7	32.7	27.7
One adult male from Bahamas (Andros Island, June).....	371	181.5	59	29.5	25.5
Three adult males from Lower California (January, August)...	366.7	183.5	64.8	34.3	27.3
One adult male from Tres Marias Islands (May 31).....	374	186	66.5	34	27.5
Two adult males from Yucatan (Arcas Keys, June).....	374.5	170	60.5	31.7	25.5
FEMALES.					
Nine adult females from Virginia to Florida.....	369.9	166.9	61.7	31.8	27.1
One adult female from Cuba (Mariel, May 11).....	367	189	61	31	26.5
Three adult females from southern California.....	384.3	164.2	64.3	33.7	27.3
Three adult females from Lower California (January, August)...	378.3	160.3	64.2	34	27.3
Two adult females from Sinaloa (Masatlan, March).....	381.5	175	63	33.5	27.7

Coasts of tropical and warm-temperate America and west coast of Africa; breeding northward to coast of Virginia (Cobbs Island) and along Gulf coast of United States, from Florida to Texas (Padre Island; Galveston Bay); no certain record of breeding on Pacific coast;^a casual northward (as straggler) to Pennsylvania (Chester County), coast of New Jersey, Massachusetts (Nantucket Island, July 1, 1874), Michigan (Mackinac Island)^b and Wisconsin;^b on Pacific side northward to Tomales Bay, California (said to have formerly bred on San Miguel Island), and southward to Peru (Payta, Jan.; Tumbes; Santa Lucia); on Atlantic side occurs throughout West Indies, on Trinidad and islands of Curaçao, Aruba, and Bonaire, and along coast of South America as far as southern Brazil (Rio de Janeiro, July; Santa Catarina, Aug.; Rio Parahyba; São Paulo; Iguapé, São Paulo; Sapituba) and Argentina (estuary of Rio de la Plata; Tuyú, March); also occurs in winter along Atlantic coast of Africa, from Morocco (Tangier) to Angola.

Sterna maxima BODDAERT, Tabl. Pl. Enl., 1783, 58, no. 988 (Cayenne; based on *Hirondelle de Mer, de Cayenne* Daubenton, Pl. Enl., ix, pl. 988).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 567 (monogr.).—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 318 (Mazatlan, Sinaloa); Proc. U. S. Nat. Mus., i, 1878, 198 (St. Vincent); i, 1879, 242 (Barbuda), 277 (Grenada, breeding), 462 (Guadeloupe), 488 (Antigua).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 655 (monogr.); 1882, 521 (Payta, Peru, Jan.; crit.); Cat. Birds Brit. Mus., xxv, 1896, 80 (Cape Roni, Gambia, Accra, and Cape Coast Castle, w. Africa; Rancho Nuevo, Vera Cruz, Jan.; Rio Lagarto, Yucatan, June; Cozumel Island, Feb.; Belize and Glovers Reef, Brit. Honduras, May; Honduras; Anegada, Dec.; Grenada, Sept.; Surinam; Brazil, April; Rio de Janeiro, July; Santa Catarina, Aug.; Mazatlan, Aug.; Manzanillo, Colima, June; Chiapam, Guatemala, Jan.; Payta, Peru, Jan.; Jamaica; etc.).—REICHENOW, Journ. für Orn., 1877, 10 (Loango coast, w. Africa).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1877, 749 (Tumbes, Peru).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 172 (Padre Island, Texas, breeding).—BOCAGE, Orn. Angola, 1881, 509.—SALVIN, Cat. Strickland Coll., 1882, 624.—COUES, Check List, 2d ed., 1882, no. 794.—BOUCARD, Proc. Zool. Soc. Lond., 1883, 462 (Yucatan).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 284.—RIDGWAY, Proc. U. S. Nat. Mus., vii, 1884, 173 (Trinidad); vii, 1885, 173 (St. Thomas).—CORY, Birds Haiti and San Dom., 1885, 178; Auk, v, 1888, 76 (West Indian references); vii, 1890, 374 (Anegada); Birds West Ind., 1889, 277; Cat. West Ind. Birds, 1892, 82, 135 (Great Bahama, Biminis, Berry Islands, Eleuthera, New Providence, Andros, Cat Island, and Inagua, Bahamas; Cuba; Isle of Pines; Jamaica; Haiti; Porto Rico; Anegada; St. Croix; Sombrero; Barbados; Antigua; Guadeloupe; St. Vincent; Grenada).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1896, no. 65; 3rd ed., 1910, p. 43.—EVERMANN, Auk, iii, 1886, 89 (Ventura Co., California, resident).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886,

^a Recorded by H. H. Bailey (Auk, xxiii, 1906, 277) as breeding on Isabella Island, Tepic; but as no specimens were obtained it seems probable that *T. elegans*, which is known to occur on that island, was mistaken for *T. maximus*.

^b These records perhaps erroneous identification of *Hydroprogne caspia*.

- 179 (Vera Cruz).—TACANOWSKI, Orn. du Pérou, iii, 1886, 439; Proc. Zool. Soc. Lond., 1877, 749 (Santa Lucia, Peru).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 632 (Grenada, breeding).—SALVIN, Ibis, 1889, 379 (Cosumel Island).—SOLATER and HUDSON, Argentine Orn., ii, 1889, 195.—ALLEN, Bull. Am. Mus. N. H., ii, 1889, 272 (Rio Parahyba, Brazil).—SCOTT, Auk, vii, 1890, 306 (Dry Tortugas, breeding; remarks as to molt).—WHITE, Auk, x, 1893, 222 (Mackinac Island, Michigan).—HARTERT, Ibis, 1893, 309 (Aruba, Curaçao and Bonaire; crit.), 326 (Curaçao), 337 (Bonaire); Novit. Zool., ix, 1902, 308 (Aruba, Curaçao, and Bonaire); x, 1903, 297 (Rio de Oro, w. Africa).—STONE, Birds E. Penn. and N. J., 1894, 45 (Chester Co., Pennsylvania, and coast New Jersey).—FIELD, Auk, xi, 1894, 120 (Jamaica).—KÖNIGSWALD, Journ. für Orn., 1896, 396 (São Paulo, s. Brazil).—HOLMERS, Segundo censo Argentina, 1898, 558.—NELSON, North Am. Fauna, no. 14, 1899, 24 (Tres Marias Islands, May; breeding?).—IHERING, Revista Mus. Paulista, iii, 1899, 444 (Iguape, São Paulo).—BEYER, Proc. La. Soc. Nat. for 1897-99 (1900), 86 (coast Louisiana, breeding).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 24 (La Paz, Lower California, Jan.; San Jose del Cabo, Sept., Oct.).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 406 (Masatlan, Sinaloa; Manzanillo, Colima; Guaymas, Sonora; Isabella Island; Tres Marias Islands; San Mateo and Gulf of Tehuantepec, Oaxaca; Jalapa and Rio Rancho Nuevo, Vera Cruz; Rio Lagarto, Merida, and Cozumel Island, Yucatan; Belize, Glovers Reef, etc., Brit. Honduras; Chiapam, Guatemala; Honduras; Costa Rica; coast of South America to Santa Catarina, s. Brazil, and Peru; West Indies; west coast Africa).—(?) BAILEY (H. H.), Auk, xxiii, 1906, 377 (Isabella Island, W. Mexico, breeding).^a—BERLEPSCH, Novit. Zool., xv, 1908, 309 (Cayenne).—VERRILL (A. E. and A. H.), Proc. Ac. Nat. Sci., Phila., 1909, 355 (Santo Domingo).—DABBENE, Orn. Argentina, 1910, 211 (estuary of Rio de la Plata).—PHILIPP, Auk, xxvii, 1910, 312 (coast North Carolina, breeding).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 414 (near Puerto Limon, Costa Rica, Feb.).—GRANT (O. H. B.), Ibis, 1911, 472 (Tuyu, Argentina, March 1).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 24 (California; more or less common n. to Tomales Bay; formerly breeding on San Miguel Island).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 48 (Porto Rico, Vieques, and Culebra, common visitant).
- [*Sterna*] *maxima* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—CORY, List Birds West Ind., revised ed., 1886, 33.—SHARPE, Hand-list, i, 1899, 135.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54 (Masatlan; Jamaica, crit.).
- Thalasseus maximus* LAWRENCE, Bull. U. S. Nat. Mus. no. 4, 1876, 51 (San Mateo, Tehuantepec, Oaxaca, Aug., Feb.).—OBERHOLSER, Auk, xxxiv, 1917, 199.
- [*Phaethusa*] *maxima* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355.
- Sterna* *maxima* NEWTON (A. and E.), Handb. Jamaica, 1881, 117.
- Sterna* (*T*) [*thalasseus*] *maxima* COUES, Key N. Am. Birds, 2d ed., 1884, 759.
- [*Sterna*] *cayana* LATHAM, Index Orn., ii, 1790, 804 (Cayenne).
- Sterna cayana* TEMMINCK, Cat. Syst., 1807, 184.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 168.—STEPHENS, Shaw's Gen. Zool., xiii, 1825, 155.—BONAPARTE, Journ. Ac. Nat. Sci. Phila., v, pt. i, 1825, 31 (Florida; crit.); Ann. Lyc. N. Y., ii, 1828, 353.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 268.—AUDUBON, Orn. Biog., iii, 1835, 505, pl. 273; vi, 1839, 639; Synopsis, 1839, 316; Birds Am., 8vo. ed., vii, 1844, 46, pl. 429.—DE KAY, N. Y. Zool., ii, 1844, 299, pl. 127, fig. 277.—GIRAUD, Birds Long Island, 1844, 355.—TAYLOR, Ibis, 1864, 96 (Pampator, Margarita Island, Venezuela).

^a May be *T. elegans* and not *T. maximus*.

- Thalasseus cayanus* BONAPARTE, Geog. and Comp. List, 1838, 61.—GOSSE, Birds Jamaica, 1847, 431.
- [*Sterna*] *cayennensis* GMELIN, Syst. Nat., i, pt. ii, 1789, 604 (Cayenne; based on *Hirondelle de Mer, de Cayenne* Daubenton, Pl. Enl., ix, pl. 988; *Grande Hirondelle de Mer de Cayenne* Buffon, Hist. Nat. Ois., viii, 346).
- Sterna cayennensis* ILLIGER, Prodromus Orn., 1811, 272.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 214.—REICHENBACH, Natatores, 1848, pl. 19, fig. 266.—SCHLEGEL, Mus. Pays-Bas, no. 24 (Sternæ), 1864, 8.—LÉOTAUD, Ois. Trinidad, 1866, 535.
- Thalasseus cayennensis* CABANIS, Journ. für Orn., 1857, 234 (Cuba).
- Gelochelidon cayennensis* BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).
- Sterna cayannensis* HERRMANN, Rep. Pacific R. R. Surv., x, pt. iv, no. 2, 1859, 72 (San Diego, California).—PELZELN, Orn. Bras., 1870, 324 (Sapituba, Brazil).
- [*Sterna*] *cayannensis* PELZELN, Orn. Bras., 1870, 461.
- St[erna] galericulata* LICHTENSTEIN, Verz. Doubl., 1823, 81 (coast of Brazil; coll. Berlin Mus.).
- Sterna galericulata* REICHENBACH, Natatores, 1848, pl. 22, fig. 823.—HARTLAUB, Orn. W.-Afr., 1857, 254 (Ashantee).—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 7.—BOCAGE, Journ. Lisb., 1867, 149 (Loanda, w. Africa).—GURNEY, Ibis, 1868, 262 (s. Africa).—KOENIGSWALD, Journ. für Orn., 1866, 396 (São Paulo, s. Brazil).
- [*Sterna*] *galericulata* GRAY, Hand-List, iii, 1871, 120, no. 11054.
- Sylochelidon galericulata* BOIE, Isis, 1844, 186.—ROCHEBRUNE, Faun. Sénégal, Ois., 1884, 337 (Almadies).
- P[hat]husa galericulata* GRAY, Gen. Birds, iii, 1846, 660.
- [*Phat]husa galericulata* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98 (Brazil).—BONAPARTE, Compt. Rend., xlii, 1856, 772.
- Thalasseus galericulatus* BLASIUS, Journ. für Orn., 1866, 82.
- Sterna erythrorhynchos* MAXIMILIAN, Beitr. Naturg. Bras., iv, pt. ii, 1833, 857 (Rio Parabyba, s. e. Brazil; type now in coll. Am. Mus. Nat. Hist.; see Allen, Bull. Am. Mus. N. H., ii, 1889, 272).—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 450.
- St[erna] erythrorhynchos* TSCHUDI, Wiegmann's Archiv, x, pt. i, 1844, 314 (Peru).
- Sylochelidon erythrorhynchus* BOIE, Isis, 1844, 186.
- Sterna cristata* (not of Stephens) SWAINSON, Birds West Africa, ii, 1837, 247, pl. 30 (type now in coll. Mus. Cambridge, England).—GRAY, List Birds Brit. Mus., Anseres, 1844, 176.—REICHENBACH, Natatores, 1848, pl. 22, fig. 822.
- Sterna regia* GAMBEL, Proc. Ac. Nat. Sci. Phila., iv, 1848, 128 (southern coast of United States).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 859; Ann. Lyc. N. Y., ix, 1869, 210 (Merida, Yucatan).—BAIRD, Cat. N. Am. Birds, 1859, no. 683.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 134 (Bahamas); xi, 1867, 98 (Santo Domingo).—ALBRECHT, Journ. für Orn., 1861, 58 (Bahamas); 1862, 207 (Jamaica).—SCLATER, Proc. Zool. Soc. Lond., 1861, 82 (Jamaica).—GUNDLACH, Journ. für Orn., 1862, 94 (Cuba, crit.).—TAYLOR, Ibis, 1864, 96 (Margarita Island, Venezuela).—DRESSER, Ibis, 1866, 44 (coast Texas).—LÉOTAUD, Ois. Trinidad, 1866, 543.—TURNBULL, Birds E. Penn. and N. J., 1869, 47 (New Jersey).—COUES, Check List, 1873, no. 562.—BREWSTER, Am. Sportsm., July 25, 1874, 257 (Nantucket Island, Massachusetts, July 1, 1874); v, Jan. 16, 1875, 249 (Nantucket Island).—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 13 (Utah).—BAILEY, Bull. Nutt. Orn. Club, i, 1876, 28 (Cobb's Island, Virginia, breeding).—COX, Birds Bahama Is., 1880, 210; 2d ed., 1890, 210.—RIDGWAY, Nom. N. Am. Birds, 1881, no.

- 681.—NEHRING, Bull. Nutt. Orn. Club, vii, 1882, 225 (Galveston Bay, etc., breeding).—ZELDÓN, Cat. Aves de Costa Rica, 1882, 36.—DALGLEISH, Auk, i, 1884, 97 (Tangier, Morocco, Dec. 10, 1883; flock).—WELLS, List Birds Grenada, 1886, 11.
- [*Sterna*] *regia* GRAY, Hand-list, iii, 1871, 120, no. 11055.—COUES, Key N. Am. Birds, 1872, 319.
- S[terna]* *regia* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 147 (Milwaukee, Wisconsin, in summer).
- Thalasseus regius* NEWTON (A. and E.), Ibis, 1859, 371 (St. Croix).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 538 (monogr.); 1871, 42 (Fort Macon, North Carolina; habits, etc.); Ibis, 1864, 388 (Chiapam, Guatemala; Brit. Honduras); Proc. Bost. Soc. N. H., xii, 1868, 126 (South Carolina).—SALVIN, Ibis, 1864, 385 (Long Cay, Brit. Honduras); 1866, 199 (Guatemala).—LAWRENCE, Ann. Lyc. N. Y., viii, 1865, 103 (Sombbrero, Lesser Antilles; habits); ix, 1869, 210 (Yucatan).—GUNDLACH, Repert. Fisico-Nat. Cuba, 1866, 392 (Cuba); Journ. für Orn., 1874, 314 (Porto Rico); 1875, 388 (Cuba; habits); 1878, 162, 191 (Porto Rico); Orn. Cubana, 1876, 309; Anal. Soc. Esp. Hist. Nat., vii, 1878, 410 (Porto Rico).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 545 (Cape San Lucas district, Lower California), 549 (San Jose del Cabo.—STAHL, Ornith., vol. 3, 1887, 453 (Porto Rico).
- [*Thalasseus*] *regius* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).
- [*Thalasseus*] *regius* GAMBEL, Journ. Ac. Nat. Sci. Phila., 2d ser., i, 1849, 228.
- Sterna* (*Thalasseus*) *regia* COUES, Birds Northwest, 1874, 669.
- [*Phaethon*] *regia* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- [*Sylochelidon*] *regia* GUNDLACH, Journ. für Orn., 1861, 348 (Cuba).
- Sylochelidon regia* GUNDLACH, Journ. für Orn., 1871, 294 (Cuba).
- Sterna bergii* (not of Lichtenstein) HARTLAUB, Orn. West-Afr., 1857, 254 (Gambia).—SHELLEY and BUCKLEY, Ibis, 1872, 293 (Accra and Cape Coast Castle, w. Africa).—IRBY, Orn. Straits Gibr., 1875, 209.
- Sterna elegans* (not of Gambel) LÉOTAUD, Ois. Trinidad, 1866, 542.

THALASSEUS ELEGANS (Gambel).

ELEGANT TERN.

Adults in breeding (?) *plumage* (sexes alike).—Pileum, including occipital crest, nape, and upper half of lores, uniform deep black; rest of head and neck, entire under parts, lower rump, upper tail-coverts, and tail immaculate pure white, the under parts more or less deeply suffused with eosine pink; back, scapulars, upper rump, and wings plain pallid neutral gray; inner webs of primaries with a sharply defined stripe of dark gray next to shaft, this color extending across tips and for a short distance along edge; bill orange or reddish orange; iris dark brown; legs and feet black.

Adults in post-nuptial (?) *plumage*.—Similar to the above, but forehead and lores white; crown white, spotted with dusky, only the occipital crest, nape, and sides of crown to and in front of eye, uniform black.

Young.—Pileum dull brownish black, nearly uniform on occiput (where the feathers are not elongated nor lanceolate, but short and blended), the whole crown streaked with white; forehead and lores

white, finely streaked with blackish; hindneck, upper tail-coverts, and under parts white, the lower portion of the first with a few roundish spots of dusky; back, scapulars, and wing-coverts dull whitish, coarsely and irregularly spotted with dusky grayish brown, this forming an almost uniform area on lesser wing-covert region, the anterior border of which is white; secondaries dusky, margined terminally with white; primaries dark hoary gray, narrowly margined with white, their inner webs mostly white but with a broad stripe along shaft and around tip dusky gray; rectrices deep brownish gray becoming paler gray basally, their tips margined with white; bill dull reddish or brownish; legs and feet dusky.

Adult male.—Wing, 292–320 (309.4); tail, 115–165 (140.2); exposed culmen, 59–65.5 (62.4); tarsus, 28–30.5 (29.5); middle toe, 22.5–23.5 (22.8).^a

Adult female.—Wing, 310; tail, 129; exposed culmen, 57.5; tarsus, 28.5; middle toe, 20.^b

Pacific coast of America, from San Francisco Bay, California, to Chile (Coquimbo Bay, Sept., Nov.; Viña del Mar, near Valparaíso; Valdivia, Jan.); accidental on Gulf coast of Texas (Corpus Christi, July —).^c

Sterna elegans GAMBEL, Proc. Ac. Nat. Sci. Phila., iv, 1848 (pub. 1849), 129 (Mazatlan, Sinaloa).—BAIRD, in Rep. Stansbury's Exped. Great Salt Lake, 1852, 335 (Mazatlan); Cat. N. Am. Birds, 1859, no. 684.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 860; ed. 1860 (Birds N. Am.) Atlas, pl. 94.—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 653 (monogr.); 1882, 521 (Callao Bay, Peru; Coquimbo Bay, Chile, Sept., Nov., crit.); Cat. Birds Brit. Mus., xxv, 1896, 84 (Corpus Christi, Texas, July; La Union, Salvador, Dec.; San Mateo, Oaxaca, March; Chorillos, near Callao, Callao Bay, and Iquique, Peru; Coquimbo Bay, Chile, Nov.; Viña de Mar, near Valparaíso; Valdivia, Jan.).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 682.—COUES, Check List, 2d ed., 1882, no. 795.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 287.—TACZANOWSKI, Orn. du Pérou, iii, 1886, 442.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 66; 3rd ed., 1910, p. 43.—BRYANT (W. E.), Proc. Calif. Ac. Sci., ser. 2, 1889, 252 (Magdalena Bay, Lower California).—TOWNSEND, Proc. U. S. Nat. Mus.,

^a Five specimens.

^b One specimen.

^c Specific records are as follows:

California: Monterey Bay, Sept., Oct., 1896; San Francisco Bay.

Lower California: La Paz, March; Magdalena Bay.

Sonora: Guaymas, breeding.

Sinaloa: Mazatlan.

Tepic: Isabella Island (breeding?).

Oaxaca: San Mateo, March; Gulf of Tehuantepec.

Salvador: La Union, Dec.; Bay of Fonseca.

Honduras: Bay of Fonseca.

Peru: Callao Bay; Chorillos; Iquique.

Chile: Coquimbo Bay, Sept., Nov.; Viña del Mar, near Valparaíso; Valdivia, Jan.

Texas: Corpus Christi, July

- xiii, 1890, 137 (La Paz, Lower California, March).—BERLEPSCH and STOLSMANN, Proc. Zool. Soc. Lond., 1892, 400 (Callao, Peru).—LOOMIS, Proc. Calif. Ac. Sci., 3rd ser., ii, 1900, 319 (Monterey Bay, California).—GRINNELL, Pacific Coast Avif., no. 3, 1902, 13 (California range); no. 11, 1915, 24 (California; irregular summer and fall visitant north to San Francisco Bay).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 407 (Guaymas, Sonora; Mazatlan, Sinaloa; Isabella Island; Gulf of Tehuantepec and San Mateo, Oaxaca; La Union, Salvador; Bay of Fonseca, Honduras; coast of Chile; Corpus Christi, Texas).—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 64 (Monterey Bay, California, Sept., Oct., 1896).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 24 (La Paz, Lower California, March 14; Magdalena Bay, common; Guaymas, Sonora, breeding).
- Sterna elegans* RIDGWAY, Man. N. Am. Birds, 1887, 40.
- [*Sterna elegans* GRAY, Hand-list, iii, 1871, 120, no. 11056.—SHARPE, Hand-list, i, 1899, 135.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54 (Chile?).
- T[halasseus] elegans* GAMBEL, Journ. Ac. Nat. Sci. Phila., ser. 2, i, 1949, 228.
- [*Thalasseus*] *elegans* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- Thalasseus elegans* COUES, Proc. Ac. Nat. Sci. Phila., 1862, 540 (monogr.); Ibis, 1864, 389 (Salvador).—SALVIN, Ibis, 1866, 198 (Bay of Fonseca, Salvador).—OBERHOLSER, Auk, xxxiv, 1917, 199.
- Sterna* (?) [*halasseus*] *elegans* COUES, Key N. Am. Birds, 2d ed., 1884, 760.
- [*Phaethusa*] *elegans* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355, part (Chile).
- (?) [*Thalasseus*] *gayi* BONAPARTE, Compt. Rend., xlii, 1856, 772 (Chile).
- [*Sterna*] *gayi* GRAY, Hand-list, iii, 1871, 119, no. 11049.
- Sterna comata* PHILIPPI and LANDBECK, Wiegmann's Archiv für Naturg., xxix, 1863, pt. 1, 126 (Chile).
- Sterna galericulata* (not of Lichtenstein) FINSCH, Abh. nat. Ver. Bremen, i, 1870, 359 (Mazatlan, Sinaloa).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 568-9, part, fig. 2.—COUES, Check List, 1873, no. 563.—LAWRENCE, Mem. Bost. Soc. N. H., ii, 1874, 317 (Mazatlan, Sinaloa; Isabella Island).
- [*Sterna*] *galericulata* COUES, Key N. Am. Birds, 1872, 320.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.
- Sterna* (*Thalasseus*) *galericulata* COUES, Birds Northwest, 1874, 671 (monogr.).
- (?) *Sterna maxima* (not of Boddaert?) BAILEY (H. H.), Auk, xxiii, 1906, 377 (Isabella Island, Tepic, w. Mexico, breeding).

THALASSEUS EURYGNATHUS (Saunders).

CAYENNE TERN.

Adults in breeding (?) *plumage* (sexes alike).—"Identical with the preceding [*T. elegans*] in plumage, but the bill is lemon-yellow and the angle of the gonys is immediately below or very little in front of the anterior end of the nostril; the hind parts of the tarsi, the soles, and the claws are dull yellow. Total length 17.5 inches [444.5 mm.], culmen 2.7 [68.58 mm.], wing 12.1 [307.34 mm.], tail 6.5 [165.1 mm.], tarsus 1.1 [27.94 mm.], middle toe and claw 1.2 [30.48 mm.]."^a

Young.—Forehead, crown, and occiput white, the last, together with posterior portion of crown, streaked with dull blackish; nape

^a I have not seen an adult of this species, and therefore copy the above description from Saunders, Cat. Birds Brit. Mus., xxv, 1896, 85.

and postocular (supra-auricular) region dull black, the feathers margined, more or less distinctly, with grayish white; hindneck, upper-back, rump, and upper tail-coverts white, the rump more or less spotted with gray; scapulars and interscapulars pale gray, indistinctly though rather broadly margined terminally with white, the tertials similar but darker gray centrally; anterior lesser wing-coverts (except along edge of wing) gray, the feathers darker centrally, forming a well-defined broad stripe across anterior portion of wing; posterior lesser coverts immaculate white; middle and greater coverts white basally, terminally, and along edges, gray centrally; secondaries dark gray (more or less silvery or "frosted"), tipped and distally edged with white, their inner webs mostly white; primaries dark gray, "frosted" with lighter gray, margined terminally with white, their inner webs broadly edged with white, except the longer (distal) quills; primary coverts similar but margined terminally with pale gray; middle pair of rectrices pale gray (more whitish on inner webs), tipped and terminally edged with white; outermost rectrices white to near tip, where gray and blackish, the intermediate rectrices white proximally, gray and dusky distally and margined with white at tips; sides of head (beneath eyes) and entire under parts, together with axillars and whole under surface of wing (except a broad stripe of deep gray along shafts on inner webs of primaries) immaculate white.

Downy young.—"Grayish white, thinly streaked with dark gray on the crown, behind the eye, and on the upper parts generally; under parts white; bill olivaceous; tarsi and toes brown, claws lighter."^a

Atlantic coast of South America, from Colombia (Burilaca, Santa Marta) and Islands of Margarita, Aruba, Tobago, and Trinidad to eastern Patagonia (Port Desire).

(?) *Sterna cayennensis*-LÉOTAUD, Ois. Trinidad, 1866, 535.

[*Sterna*] *cayennensis* GRAY, Hand-list, iii, 1871, 120, no. 11051, part (Venezuela).

(?) [*Phaethusa*] *cayennensis* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355, part (Brazil).

Sterna galericulata (not of Lichtenstein) PELZELN, Orn. Bras., 1870, 324, 461—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 568-9, part.

Sterna eurygnatha SAUNDERS, Proc. Zool. Soc. Lond., 1876 (pub. Oct. 1), 654 (Santa Catarina, s. Brazil; coll. Brit. Mus.); Cat. Birds Brit. Mus., xxv, 1896, 85 (Venezuela; Bahia, Camamu, Rio de Janeiro, Imbituba and Santa Catarina, Brazil; Puerto Desiado s. Patagonia).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 84 (Trinidad).—RICHMOND, Proc. U. S. Nat. Mus., xviii, 1896, 653 (Margarita Island, Venezuela; crit.).—CORY, Pub. 137, Field Mus. N. H., 1909, 194 (Aruba), 234 (Margarita Island).—DABBENE, Orn. Argentina, 1910, 211 (Puerto Desiado, s. Patagonia).

[*Sterna*] *eurygnatha* SHARPE, Hand-list, i, 1899, 135.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54.

Sterna eurygnatha [error typ.] IHERING, Revista Mus. Paulista, iv, 1900, 294 (descr. eggs).

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 85.

Sterna elegans (not of Gambel) LÉOTAUD, Ois. Trinidad, 1866, 542.

(?) *Sterna elegans* CORY, Auk, x, 1893, 220 (Tobago).

- (?) [*Phaethusa*] *cayennensis* (not *Sterna cayennensis* Gmelin) HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355 (Brazil).

[*Phaethusa*] *elegans* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355, part (Brazil).

THALASSEUS SANDVICENSIS ACUFLAVIDUS (Cabot).

CABOT'S TERN.

Similar to *T. s. sandvicensis*^a but white margin to inner webs of three or four outer primaries much narrower, usually falling short of the tip, which is occupied by a continuation of the inner dark gray stripe; wing and tail averaging decidedly shorter?

Adults in breeding (?) *plumage* (sexes alike).—Pileum, including occipital crest, nape, and upper half of lores uniform deep black; upper parts pallid neutral gray to nearly pale neutral gray, the outer webs of primaries slightly darker, with a silvery or hoary cast; inner webs of primaries mostly white, with a broad stripe of dark gray along shafts; hindneck, entire under parts (including axillars and under wing-coverts), rump, upper tail-coverts, and tail immaculate pure white; bill black tipped, more or less extensively, with yellow or whitish; iris dark brown; legs and feet black.

Adults in post-nuptial (?) *plumage*.—Similar to the breeding (?) plumage but forehead and lores white, the crown streaked with black and white, and black occipital feathers faintly tipped with white.

Young.—Pileum, nape, and upper half of lores dull blackish or dusky, irregularly intermixed with dull whitish, especially on crown, which is coarsely spotted; occipital feathers short and blended; rest of upper parts, including rump, upper tail-coverts, and tail pale gray, coarsely and irregularly spotted with dull blackish or brownish black; wings, except smaller coverts, as in adults; rectrices becoming darker gray terminally, where irregularly spotted, or with hastate spots, of dusky or blackish; under parts immaculate white; bill dusky or dull blackish, scarcely or at least not abruptly, paler at tip.

Downy young.—Entirely white, the rump with a few minute flecks of blackish; bill pale dull grayish yellow or dull ivory white, with a subterminal fleck of dusky on maxilla and mandible; legs and feet dusky.

Adult male.—Wing, 259–302 (278.2); tail, 122–130 (126.2); exposed culmen, 52–54.5 (53.3); tarsus, 25–27 (26); middle toe, 19–20.5 (19.5).^b

^a See p. 467.

^b Five specimens.

Adult female.—Wing, 270–294 (283.5); tail, 99–121 (111.8); exposed culmen, 49.5–53 (50.9); tarsus, 25–26 (25.5); middle toe, 18–20 (19).^a

Breeding along South Atlantic and Gulf coasts of United States, from North Carolina (Pimlico Sound; Royal Shoal Island) to Florida and Texas (Padre Island; Galveston Bay); migrating southward to Bahamas, Greater Antilles (Cuba; Jamaica; Porto Rico; Antigua), Gulf and Caribbean coasts of Mexico, British Honduras (Light House Reef, May; Saddle Cay; Northern Two Cays), Honduras, and coast of South America, from Colombia (Cartagena) to southern Brazil (Rio de Janeiro), and Pacific coast of Oaxaca (Gulf of Tehuantepec; San Mateo, Aug., Feb.) and Guatemala (Chiapám, Jan.); wintering northward to Bahamas, Florida, Louisiana, etc.; accidental northward, in summer, to Virginia (Cobbs Island), New Jersey (Grassy Bay), Massachusetts (Chatham, Aug., 1865), and Ontario (Lucknow Spring, 1882, 3 specimens).

Sterna boysii (not of Latham, 1790) NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 276.

Sterna cantiaca (not of Gmelin, 1789) AUDUBON, Orn. Biog., iii, 1835, 531, pl. 279; Synopsis, 1839, 317; Birds Am., 8vo. ed., vii, 1844, 87, pl. 431.—DE KAY, New York Zool., Birds, 1844, 303, pl. 124, fig. 274.—TURNBULL, Birds E. Penn. and N. J., 1869, 47 (New Jersey; straggler).—ALLEN, Am. Nat., iii, 1870, 644 (Massachusetts).—PELZELN, Orn. Bras., 1870, 324 (Rio de Janeiro).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 569, part (monogr.).—COUES, Check List, 1873, no. 564; 2d ed., 1882, no. 796.—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 653, part (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 75, part (Laguna Verde and La Antigua, Vera Cruz, Sept.; Cozumel Island, Feb.; Lighthouse Reef, Brit. Honduras, May; Chiapam, Guatemala, Jan.; Cartagena; Colombia, Feb.; and other American localities).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 65 (coast of Texas, breeding).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 172 (Padre Island, Texas, breeding).—CORY, Birds Bahama Is., 1880, and 2d ed., 1890, 211.—SALVIN, Ibis, 1889, 379 (Cozumel Island).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 405 (Gulf of Tehuantepec and San Mateo, Oaxaca; Laguna Verde and La Antigua, Vera Cruz; Celestin and Cozumel Island, Yucatan; Lighthouse Reef, Saddle Cay, and Northern Two Cays, Brit. Honduras; both coasts Guatemala).

^a Four specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Five adult males from Europe and northern Africa (<i>T. s. sandvicensis</i>).....	296.8	141.1	53.1	26	20.7
Five adult males from eastern United States.....	278.2	126.2	53.3	26	19.5
FEMALES.					
Two adult females from Europe (France) (<i>T. s. sandvicensis</i>)...	279.5	126.2	50.5	25.5	20
Four adult females from eastern North America.....	283.5	111.8	50.9	25.5	19

- Thalasseus cantiacus* BONAPARTE, Geog. and Comp. List, 1838, 61, part.—OABANA, Journ. für Orn., 1857, 234 (Cuba).—ALBRECHT, Journ. für Orn., 1862, 207 (Jamaica).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 51 (San Mateo, Tehuantepec, Oaxaca, Aug., Feb.).
- [*Sterna*] *cantiaca* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—PELZELN, Orn. Bras., 1870, 461.—COUES, Key N. Am. Birds, 1872, 320.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 33.—SHARPE, Hand-list, i, 1899, 135, part.
- Sterna* (*Thalasseus*) *cantiaca* COUES, Birds Northwest, 1874, 673, part (monogr.).
- Sterna* (*T*) [*halasseus*] *cantiaca* COUES, Key N. Am. Birds, 2d ed., 1884, 761.
- Sterna aculeflavida* CABOT, Proc. Bost. Soc. N. H., ii, 1847, 257 (Tancah, Yucatan).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 860.—BAIRD, Cat. N. Am. Birds, 1859, no. 685; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 27 (Brazos, Texas).—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 134 (Bahamas).
- [*Sterna*] *aculeflavida* ALBRECHT, Journ. für Orn., 1861, 58 (Bahamas).—LAWRENCE, Ann. Lyc. N. Y., ix, 1869, 210 (Celestin, Yucatan).—GRAY, Hand-list, iii, 1871, 119, no. 11048.
- Sterna cantiaca aculeflavida* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 206; Nom. N. Am. Birds, 1881, no. 683; Cat. Aquat. and Fish-eating Birds, 1883, 33.—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 225 (Galveston Bay, etc., Texas, breeding).
- Sterna sandvicensis aculeflavida* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 288.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 67; 3d ed., 1910, p. 43.—CORY, Auk, v, 1888, 77 (West India localities and references; descr.); Birds West Ind., 1889, 278; Cat. West Ind. Birds, 1892, 82 (Eleuthera, Acklin Island and Great Inagua, Bahamas; Cuba; Jamaica; Porto Rico; Antigua).—McILWRAITH, Birds Ontario, 1894, 52 (Lucknow, Ontario, 3 specs., spring 1882).—STONE, Birds E. Penn. and N. J., 1894, 451 (Grassy Bay, New Jersey).—BEYER, Proc. Louis. Soc. Nat. for 1897-99 (1900), 86 (coast Louisiana, resident).—FIELD, Auk, xxi, 1904, 120 (Jamaica).—PEARSON, Auk, xxv, 1908, 312 (Royal Shoal Island, North Carolina, breeding).—PHILIPP, Auk, xxvii, 1910, 313 (Pimlico Sound, North Carolina, breeding).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 48 (Porto Rico, rare visitant).
- [*Thalasseus*] *aculeflavidus* GUNDLACH, Journ. für Orn., 1861, 346 (Cuba); 1874, 314 (Porto Rico).—STAHL, Ornith., vol. 3, 1887, 453 (Porto Rico).
- Thalasseus aculeflavidus* BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—GUNDLACH, Journ. für Orn., 1875, 390 (Cuba; habits); 1878, 163 (Porto Rico); Repert. Fisico-Nat. Cuba, i, 1866, 392; Orn. Cubana, 1876, 309; Anal. Soc. Esp. Hist. Nat., vii, 1878, 411 (Porto Rico).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 540 (monogr.); 1871, 42 (Fort Macon, North Carolina); Ibis, 1864, 389 (Chiapam, Guatemala; crit.); Proc. Essex Inst., v, 1868, 308 (New England); Proc. Bost. Soc. N. H., 1868, 126 (South Carolina).—SALVIN, Ibis, 1864, 381 (Saddle Cay, Brit. Honduras); 1866, 198 (Honduras).
- Thalasseus aculeflavidus* COUES, Proc. Ac. Nat. Sci. Phila., 1862, 542.—GUNDLACH, Journ. für Orn., 1878, 191 (Porto Rico).
- Thalasseus aculeflavida* GUNDLACH, Journ. für Orn., 1862, 94 (Cuba).
- Thalasseus sandvicensis aculeflavidus* OBERHOLSER, Auk, xxxiv, April, 1917, 199.
- [*Actochelidon*] *aculeflavida* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355.

Genus GELOCHELIDON Brehm.

- Gelochelidon* BREHM, Naturg. Vög. Deutschl., 1831, 771. (Type, by monotypy *Lachseeschwalbe* Brehm = *Sterna nilotica* Linnaeus.)
- Gelochelidon* (emendation) GRAY, List Birds Brit. Mus., pt. iii, 1844, 176.

Chelochelidon (emendation) BREHM, Isis, 1842, 413.

Geochelidon (emendation) GUNDLACH, Journ. für Orn., 1861, 346.

Laropsis WAGLER, Isis, 1832, 1225. (Type, *Sterna anglica* Montague=*S. nilotica* Linnaeus.)

Medium-sized Sternidæ (wing 275–338 mm.) with relatively short and stout bill, short and moderately forked tail, and long tarsus.

Bill shorter than head, stout, its depth at base equal to nearly half the distance from anterior end of nostril to tip of maxilla, the exposed culmen shorter than combined length of tarsus and first phalanx of middle toe, rather strongly convex or decurved for distal half; gonys shorter than outer toe without claw, decidedly shorter than mandibular rami, nearly straight, strongly ascending terminally, its basal angle rather prominent; nostril close to but scarcely touching latero-frontal antia, rather broadly elliptical or narrowly oval, longitudinal; latero-frontal antia only slightly anterior to malar antia, the mental antia about on line (vertically) with middle of nostril. Wing long and pointed, the longest primary exceeding distal secondaries by twice the distance from tips of the latter to bend of wing. Tail less than half as long as wing, forked for about one-third its length, or less, the lateral rectrices contracted but not attenuated terminally. Tarsus decidedly longer than middle toe with claw; webs with anterior margin moderately excised.

Plumage and coloration.—Feathers of occiput normal (short and blended). Summer adults with pileum and nape uniform black, the remaining upper parts pale gray, the under parts immaculate white, the inner webs of primaries distinctly bicolored; winter adults with head and neck white, the auricular region and spot in front of eye dusky; downy young mottled or marbled above. (Coloration, in all stages, essentially as in typical species of *Sterna*.)

Range.—Europe, south of 55° north latitude, to northern Africa and Australia; Atlantic and Gulf coasts of United States, southward in winter to Patagonia, etc. (Monotypic.)

GELOCHELIDON NILOTICA (Gmelin).

GULL-BILLED TERN.

Adults in breeding season (sexes alike).—Pileum, nape, and upper half of lores uniform deep black; rest of upper parts, including rump, upper tail-coverts, and tail, uniform pale gray (between gull gray and pallid neutral gray); entire under parts, including sides of head up to and including auricular and suborbital regions and lower half of lores, together with axillars and under wing-coverts, immaculate pure white; bill wholly deep black; inside of mouth flesh color (in life); iris dark brown; legs and feet dark reddish brown (dark walnut brown) in life, the soles of toes pinkish brown.

Adults in winter.—Head and neck white, the hindneck tinged with pale gray, the auricular region and a crescentic space immediately in front of eye dusky grayish; otherwise as in summer.

Young.—Upper parts pale gray, the feathers more or less tipped with pale clay color or dull buff, this sometimes nearly uniform on back and scapulars, where the gray is mostly concealed, the pileum and hindneck, as well as back and scapulars, sometimes streaked with dusky, but oftener immaculate; a blackish crescentic spot immediately in front of eye, and a dusky grayish suffusion on upper portion of auricular region, forming a more or less distinct postocular stripe; rump, upper tail-coverts, tail, and wings nearly uniform pale gray; remiges deeper, more silvery, gray, the secondaries and proximal primaries tipped or terminally margined with white; rectrices darker gray subterminally and tipped with white or buffy; under parts immaculate white; bill dusky brownish, the mandible dull brownish orange, dusky terminally; legs and feet varying from dull reddish brown to dusky brown (in life), the soles more reddish.

Downy young.—Upper parts light grayish buff with several large and tolerably well-defined dusky irregular spots on posterior half of head, a distinct dusky stripe down each side of hindneck and upper back, the wings, rump, and flanks with rather distinct large spots of dusky; under parts white, tinged with grayish on sides of throat; bill brownish inclining to orange (in life) on mandible; legs and feet brownish orange (in life).

Adult male.—Wing, 288–338 (301); tail, 104.5–135.5 (114.8); exposed culmen, 37–42 (38.7); tarsus, 27–36 (29.5); middle toe, 20–25.5 (21.4).^a

Adult female.—Wing, 275–313 (292.3); tail, 103–127 (112.2); exposed culmen, 35–38 (36.5); tarsus, 27.5–32 (29.1); middle toe, 20–22.5 (20.8).^a

^a Ten specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Spain (Seville, October).....	324	119	38	.....	25.5
One adult male from Australia (<i>G. n. macroptera</i>).....	338	135.5	42	36	25
Six adult males from Atlantic and Gulf coasts of United States.....	298.8	115.2	38.3	28.7	21
One adult male from Bahamas (Andros Island, May).....	316	125	39	30	21.5
One adult male from Vera Cruz (Pajaros, April 25).....	293	118	37	29.5	21
Two adult males from Guerrero (Cayacal, April 12).....	303.7	107.2	40.7	32	22.7
FEMALES.					
One adult female from Spain (Coria del Rio, April 29).....	298	118	37	32	22.5
One adult female from Russia (Volga River).....	313	127	.....	31	22
Four adult females from coast of Virginia (May).....	296.7	116.1	36	29	20.5
Four adult females from coast of Mississippi (July).....	290.2	108.2	37.1	29.9	21.2
One adult female from Bahamas (Rum Cay, July 10).....	289	119.5	35	28.5	20.5
One adult female from Guerrero (Cayacal, April 12).....	286	105.5	37	27.5	21

Nearly cosmopolitan, but absent from colder regions; in America breeds northward to coast of Virginia (Cobbs Island)—formerly to New Jersey (Seven Mile Beach; Cape May), and along Gulf coast from Florida to Texas (Padre Island; Galveston Bay; Fort Brown), also in Bahamas, in Cuba, and on island of Mexiana, at mouth of Amazon River; accidental northward to Massachusetts (Ipswich, Sept., 1871), Maine (near Portland, March, 1885,) New Brunswick (Grand Menan, Aug., 1879), Ohio, and northeastern Illinois (near Chicago, rare straggler); ranges southward along Gulf, Caribbean, and Atlantic coasts to Brazil (Mexiana Island, breeding; São Paulo) and Argentina (estuary of Rio de la Plata; Bahia Blanca; Estancia Espartilla; Ranchos; Santa Elena, Oct.; Barracas al Sud; Luiconia); occurs also on Pacific coast of Oaxaca (Gulf of Tehuantepec; San Mateo) and Guatemala (Chiapám), and in Ecuador (Vaqueria); in Eastern Hemisphere northward to about lat. 55° N., from British Islands to eastern Siberia, southern China, etc., southward to northern Africa, southern Arabia, India, Ceylon, Java, Australia, and Tasmania.

Sterna nilotica LINNÆUS, in Hasselquist, Reis. Paläst., 1762, 325 (River Nile, near Cairo, Egypt; not considered binomial).

[*Sterna*] *nilotica* GÜELIN, Syst. Nat., i, p. ii, 1789, 606.—LATHAM, Index Orn., ii, 1790, 806 (Egypt).—GRAY, Hand-list, iii, 1871, 119, no. 11040.

Sterna nilotica VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 166.—HUME, Stray Feath., i, 1873, 281 (Sind, India); Nests and eggs Indian Birds, 1875, 648.—ADAM, Stray Feath., i, 1873, 403 (Sambur Lake, India, winter).—BUTLER, Stray Feathers, iv, 1876, 31 (n. Guzerat, India).—ARMSTRONG, Stray Feath., iv, 1876, 351 (Irawaddy, India).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 61; Vög. Deutsch Ost-Afr., 1894, 21 (Lake Victoria Nyanza).—FRIVALDSKY, Av. Hung., 1891, 179.—MADARÁSZ, Ausst. Ung. Vogelf., 1891, 120.—HARTERT, Kat. Vogelsamml. Senckenb., 1891, 240.

Lar[opsis] nilotica WAGLER, Isis, 1832, 1225.

Gelochelidon nilotica STEINER, Auk, i, Oct., 1884, 366.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 63; 3rd ed., 1910, p. 42.—SALVADORI, Ucc. Ital., 1887, 279.—COET, Auk, v, 1888, 76 (West Indian localities and references; descr.); Birds West Ind., 1889, 277; Cat. West Ind. Birds, 1892, 82 (New Providence, Long Island, Mirapovos, and Great Inagua, Bahamas; Cuba; Barbados).—(?) PINDAR, Auk, vi, 1889, 311 (Fulton Co., Kentucky, summer resident ♂).—SHICK, Auk, vii, 1890, 327 (Seven Mile Beach, New Jersey, breeding).—RHODES, Proc. Ac. Nat. Sci. Phila., 1892, 101 (Corpus Christi, Texas; breeding).—BEYER, Proc. Louis. Soc. Nat. for 1897-99 (1900), 86 (coast Louisiana, breeding).—HARTERT, Novit. Zool., ix, 1902, 604 (near Vaqueria, n. w. Ecuador, Sept.).—ALLEN (G. M.), Auk, xxv, 1908, 234 (near Portland, Maine, March, 1885).—DABBENE, Orn. Argentina, 1910, 210 (estuary of Rio de la Plata; Estancia Espartilla, Buenos Aires).

Gelochelidon nilotica nilotica MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 330 (Europe; n. Africa in winter).

° Extremely doubtful.

- Sterna anglica* MONTAGU, Orn. Dict. Suppl., 1813, fig. (Sussex, England; coll. Brit. Mus.).—LEACH, Syst. Cat Mam., etc., Brit. Mus., 1816, 41.—TEMMINCK, Man. d'Orn., 2d ed., 1820, 744; 2d ed., 4^{me}pte., 1840, 460.—MEYER, Taschenb., iii, 1822, 188.—FLEMING, Brit. Anim., 1828, 143.—WERNER, Atlas, Palmipèdes, 1828, pl. 8.—LESSON, Traité d'Orn., 1831, 621.—MAXIMILIAN, Beitr. Naturg. Bras., iv, 1833, 867.—SELBY, Brit. Birds, ii, 1833, 480, pl. 88, fig. 1.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 269.—JENTNA, Man. Brit. Vertebr., 1835, 269.—EYTON, Rarer Brit. Birds, 1836, 97, figs.; Cat. Brit. Birds, 1836, 54.—GOULD, Birds Europe, v, 1837, pl. 416 and text.—AUDUBON, Orn. Biog., v, 1839, 127, pl. 410; Synopsis, 1839, 316; Birds Am., 8 vo. ed., vii, 1844, 81, pl. 430.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 215.—SCHINZ, Europ. Fauna, 1840, 374.—NAUMANN, Vög. Deutschl., x, 1840, 38, pl. 249.—SELYS-LONGCHAMPS, Faune Belge, 1842, 149.—YARRELL, Brit. Birds, iii, 1843, 407; 2d ed., iii, 1845, 515.—DEKAY, N. Y. Zool., Birds, 1844, 301, pl. 127, fig. 270.—GIRAUD, Birds Long Is., 1844, 353.—SCHLEGEL, Rev. Crit., 1844, 130; Vog. Nederl., 1854, 613, pl. 361; Dier. Nederl. Vog., 1861, 241; Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 34.—HEWITSON, Eggs Brit. Birds, ii, 1846, 431, pl. 121, fig.—REICHENBACH, Natatores, 1848, pl. 19, fig. 261.—JARDINE, Contr. Orn., 1849, 87 (Bermudas?).—DEGLAND, Ois. Eur., ii, 1849, 336.—KJÆRBØLLING, Danm. Fugle, 1852, 327, pl. 40A, fig. 2; Suppl., 1854, pl. 20, fig. 1.—LINDERMAYER, Vög. Griechenl., 1860, 180.—RADDE, Reis. Sibir., Vög., 1863, 388.—SALVADORI, Ucc. Sard., 1864, 121; Orn. Papuasias, etc., iii, 1882, 406.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 450.—ELWES and BUCKLEY, Ibis, 1870, 337 (coast Albania).—HOMER, Journ. für Orn., 1870, 439 (e. Siberia).—HARTING, Handb. Brit. Birds, 1872, 170.—HEUGLIN, Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1425.—BROOKS, Ibis, 1873, 346 (Sardinia).—COUES, Check List, 1873, no. 560; 2d ed., 1882, no. 792.—BAILEY (H. B.), Bull. Nutt. Orn. Club, i, 1876, 28 (Cobb's Island, Virginia, breeding).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 644 (monogr.); ed. Yarrell's Brit. Birds, iii, 1884, 531; Man. Brit. Birds, 1889, 623; Cat. Birds Brit. Mus., xxv, 1896, 25.—MOORE, Proc. Bost. Soc. N. H., xix, 1877, 141 (Bahamas).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 64 (Galveston, Texas, breeding).—MERRILL (J. O.), Proc. U. S. Nat. Mus., i, 1878, 172 (Fort Brown, Texas, breeding).—TAYLOR, Ibis, 1878, 374 (Damietta, Egypt).—DEANE, Bull. Nutt. Orn. Club, v, 1880, 63 (Grand Menan, 1 spec., Aug., 1879).—CORY, Birds Bahama Is., 1880, and ed. 1890, 209.—RIDGWAY, Nom. N. Am. Birds, 1881, no. 679.—NEHRING, Bull. Nutt. Orn. Club, vii, 1882, 225 (Galveston Bay, etc., Texas, breeding).—SEEBOHM, Ibis, 1882, 230 (Kirghis steppes, breeding); Hist. Brit. Birds, iii, 1885, 263.—OATES, Birds Brit. Burma, ii, 1883, 422.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 182.—TRISTRAM, Fauna and Flora Palestine, 1884, 135.—REM, Bull. U. S. Nat. Mus., no. 25, 1884, 268 (Bermudas, 1 spec., April 25, 1875).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 277.—HOLLAND, Ibis, 1890, 428 (near Ranchos, Argentina); 1892, 212 (Estancia Espartilla; habits).—KÖRNIG, Journ. für Orn., 1893, 97 (Tunisia).—JESSE, Ibis, 1903, 166 (Lucknow, India).—BONHOTE, Ibis, 1903, 313 (Andros Island, Bahamas; breeding?).—WITHERBY, Ibis, 1903, 566 (Fars, n. w. Persia).
- St[terna] anglica* KEYSERLING and BLASTUS, Wirb. Eur., 1840, pp. xcvi, 247.
- [Sterna] anglica* COUES, Key N. Am. Birds, 1872, 319.—CORY, List Birds West Ind., revised ed., 1886, 33.
- S[terna] anglica* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).—NELSON, Bull. Essex Inst., viii, 1876, 147 (Lake Michigan, near Chicago, extremely rare visitant).
- Sterna (Gelochelidon) anglica* COUES, Birds Northwest, 1874, 664.
- S[terna] (G)[elochelidon] anglica* COUES, Key N. Am. Birds, 2d ed., 1884, 757.

Thalasseus anglica BOIE, Isis, 1822, 880.

Vireo anglica STEPHENS, Shaw's Gen. Zool., xiii, pt. i, 1826, 174.

Laropsis anglica WAGLER, Isis, 1832, 1225.

Gelochelidon anglica BONAPARTE, Geog. and Comp. List, 1838, 61; Cat. Ucc. Eur., 1842, 76.—BOIE, Isis, 1844, 187.—REICHENBACH, Syst. Nat., 1850, pl. 4; Av. Syst. Nat., v, 1852.—MACGILLIVRAY, Brit. Birds, v, 1852, 666.—CABANIS, Journ. für Orn., 1857, 234 (Cuba).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 536 (monogr.); Ibis, 1864, 389 (Chiapam, Guatemala; crit.); Proc. Bos. Soc. N. H., xii, 1868, 126 (South Carolina).—JERDON, Birds India, ii, 1864, 836.—SALVIN, Ibis, 1866, 199 (Chiapam).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City); Bull. U. S. Nat. Mus., no. 4, 1876, 51 (San Mateo, Tehuantepec, Oaxaca, Aug., Feb.).—FRITSCH, Vög. Eur., 1870, 457, pl. 55, fig. 1.—SALVADORI, Faun. Ital., Ucc., 1871, 283; Ucc. Borneo, 1874, 371; Orn. Papuasias, iii, 1882, 430.—BREWSTER, Am. Nat., vi, 1871, 306 (Ipswich Beach, Mass., 1 spec., Sept., 1871).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 572 (monogr.).—ALLEN, Mus. Comp. Zool., ii, 1871, 366 (e. Florida).—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 400 (Ceylon).—GOULD, Birds Great Brit., v, 1873, pl. 74 and text.—BLYTH and WALDEN, Birds Burma, 1875, 163.—GUNDLACH, Repert. Físico-Nat. Cuba, i, 1866, 392; Journ. für Orn., 1875, 388 (Cuba; habits); Orn. Cuba, 1876, 309.—LEGGE, Ibis, 1875, 407 (s. Ceylon).—HOLLAND, Ibis, 1879, 169 (Santa Elena, Argentina, Oct., common).—GIGLIOLI, Ibis, 1881, 218 (Italian localities); Avif. Ital., 1886, 414; i, Resoc. Avif. Ital., 1889, 629; ii, Resoc., 1891, 652.—BIDDULPH, Ibis, 1882, 290 (Gilgit, n. India).—ZELLEDÓN, Cat. Aves de Costa Rica, 1882, 36.—RADDE, Orn. Caucas., 1884, 485.—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 25, 456.—KOENIGSWALD, Journ. für Orn., 1896, 396 (São Paulo, s. Brazil).—IHERING, Revista Mus. Paulista, iii, 1899, 443 (São Paulo).—GRANT, Novit. Zool., vii, 1900, 270 (s. Arabia).—HARTERT, Novit. Zool., vii, 1900, 554 (Great Banda Island).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 400 (Matamoros, Tamaulipas; San Mateo and Gulf of Tehuantepec, Oaxaca; Laguna de Chiapam, Guatemala; etc.).—HAGMANN, Journ. für Orn., 1906, 106 (Mexiana Island, mouth of Amazon River, breeding; descr. eggs); Zool. Jahrb., 1907, 45 (Mexiana Island).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 253 (Barracas al Sud, Argentina, Feb., Sept.).—GRANT (C. H. B.), Ibis, 1911, 474 (Luiconia, Argentina, April 29).

[*Gelochelidon*] *anglica* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—SHARPE, Hand-list, i, 1899, 134.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53.

Gelochelidon anglicus GRAY, List Gen. Birds, 1841, 100.—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 290.—JERDON, Birds India, iii, 1864, 836.

Gelichelidon anglica GRAY, List Birds Brit. Mus., iii (Anseres), 1844, 176.

Sterna aranea WILSON, Am. Orn., viii, 1814, 143, pl. 72, fig. 6 (Cape May, New Jersey).—VILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 169; Faune Franç., 1828, 398, pl. 161, fig. 1.—BONAPARTE, Ann. Lyc. N. Y., ii, 1827, 354.—AUDOIN, Hist. Nat. Egypte [1826], pl. 9, fig. 2; Expl. Sonnini, 2d ed., 1828, 418.—SAVI, Orn. Tosc., iii, 1831, 90.—JARDINE, ed. Wilson's Am. Orn., iii, 1832, 179.—GAY, Faun. Chil., Zool., i, 1847, 485.—REICHENBACH, Natatores, 1848, pl. 22, figs. 826-827.—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 452.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 859.—BAIRD, Cat. N. Am. Birds, 1859, no. 681.—WHEATON, Ohio Agric. Rep., 1860, no. 272 (Chio).—ALLEN, Proc. Essex Inst., 1864, 90 (Springfield, Massachusetts).—DRESSER, Ibis, 1866, 44 (s. Texas).—LÉOTAUD, Ois. Trinidad, 1866, 540.—PELLEIN, Orn. Bras., 1870, 325.

- S[terna] aranea* BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [208].
- [*Sterna*] *aranea* PELZELN, Orn. Bras., 1870, 461.—GRAY, Hand-list, iii, 1871, 119, no. 11041.
- (?) *Hydroprogne aranea* KAUF, Natürl. Syst., 1829, 91, 196.
- Gelochelidon aranea* BREHM, Vög. Deutschl., 1831, 775; Vogelf., 1855, 347; Naumannia, 1855, 295.—BONAPARTE, Geog. and Comp. List, 1838, 61.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—GUNDLACH, Journ. für Orn., 1862, 94 (Cuba; crit.); 1871, 294 (Cuba).
- Virvalva aranea* GOULD, in Darwin Zool. Voy. 'Beagle,' iii, 1841, 145 (Bahia Blanca, Argentina).
- [*Gelochelidon*] *aranea* BONAPARTE, Compt. Rend., xlii, 1856, 772.—GUNDLACH, Journ. für Orn., 1861, 346 (Cuba).
- S[terna] anglica* "aranea" RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Lake Michigan, Illinois).
- Gelochelidon nilotica aranea* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 330 (North America).
- Sterna affinis* (not of Rüppell) HORSFIELD, Trans. Linn. Soc., xiii, 1820, 199; Zool. Res. Java, 1824, 8.
- Virvalva affinis* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 175.
- Gelochelidon affinis* BOIE, Isis, 1844, 187.
- [*Gelochelidon*] *affinis* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- Gelochelidon nilotica affinis* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 330 (Java, etc.).
- Sterna risoria* BREHM, Vögelk., iii, 1822, 650, pl. 5; Lehrb. Eur. Vög., 1824, 682.
- Sterna meridionalis* BREHM, Lehrb. Eur. Vög., 1824, 988.—HEUGLIN, Ibis, 1859, 35 (Massaua).
- Gelochelidon balthica* BREHM, Vög. Deutschl., 1831, 772; Vogelf., 1855, 346; Naumannia, 1855, 295.
- Gelochelidon agraria* BREHM, Vög. Deutschl., 1831, 773; Vogelf., 1855, 347; Naumannia, 1855, 295.
- [*Gelochelidon*] *meridionalis* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- Gelochelidon meridionalis* BREHM, Vög. Deutschl., 1831, 774; Vogelf., 1855, 347; Naumannia, 1855, 295.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 198.
- Sterna nuttalli* "Aud" [ubon] NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 279, footnote (Dry Tortugas, Florida).
- S[terna] nuttalli* GRAY, Gen. Birds, iii, 1846, 659.
- Hydrocecropis nuttalli* BOIE, Isis, 1844, 179.
- Sterna macrotarsa* GOULD, Proc. Zool. Soc. Lond., 1837, 26 (Tasmania; coll. J. GOULD); Synop. Birds Australia, pt. ii, 1837, fig. 2.
- [*Sterna*] *macrotarsa* GRAY, Gen. Birds, iii, 1846, 659.
- [*Sterna*] *macrotarsa* GRAY, Hand-list, iii, 1871, 119, no. 11042.
- Gelochelidon macrotarsa* BOIE, Isis, 1844, 187.—REICHENBACH, Vög. Neuhol., 1850, 347.—BONAPARTE, Compt. Rend., xlii, 1856, 772.—GOULD, Handb. Birds Australia, ii, 1865, 403; Birds Australia, Suppl., 1869, pl. 81.—RAMSAY, Proc. Zool. Soc. Lond., 1877, 348 (Brisbane).—MATHEWS, Birds Australia, ii, 1913, pl. [104] facing p. 327.
- Gelochelidon nilotica macrotarsa* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 327, 331 (Australia).
- Gelochelidon palustris* MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 237.
- Gelochelidon velox* BREHM, Vogelf., 1855, 347; Naumannia, 1855, 295.
- Gelochelidon nilotica addenda* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 331 (China; breeding).
- Gelochelidon nilotica grönvaldi* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 331 (South America; breeding).

Genus STERNA Linnæus.

Sterna LINNÆUS, Syst. Nat., ed. 10, i, 1758, 137; ed. 12, i, 1766, 227. (Type, as designated by Gray, 1840, *Sterna hirundo* Linnæus.)

Onychoprion WAGLER, Isis, xxv, 1832, 277. (Type, by monotypy, *Sterna serrata* Wagler = *fuscata* Linnæus.)

Chelido^a BILLBERG, Synop. Faunae Scand., i, pars 2, 1828, tab. A and p. 193. (New name for *Sterna* Linnæus.)

Planetis WAGLER, Isis, xxv, 1832, 1222. (Type, *Sterna guttata* Wagler ex Forster, manuscript, = *S. fuscata* Linnæus.)

Planetes (emendation) GISTEL, Naturg. Thierreichs für höhere Schulen, 1848, p. x. *Haliplana* WAGLER, Isis, xxv, 1832, 1224. (Type, *Sterna fuliginosa* Gmelin = *S. fuscata* Linnæus.)

Melanosterna^b BLYTH, Journ. Asiat. Soc. Bengal, xv, 1846, 373. (Type, *Sterna anæthetus* Scopoli.)

Thalassipora "Boie" RÜPPELL, Syst. Ueb. Vög. Nord-ost-Afrika, 1845, 140. (Type. *Sterna infuscata* Lichtenstein = *S. fuscata* Linnæus.)

Dipsaleon GISTEL, Naturg. des Thierreichs für höhere Schulen, 1848, p. x. (New name for *Planetis* Wagler.)

Medium-sized to rather small Sternidæ (wing about 210–300 mm.) with tail more than half as long as wing, deeply forked and with lateral rectrices attenuated (sometimes subacuminate) terminally, and occipital feathers normal (short and blended).

Bill about as long as head, moderately slender, its greatest depth nearly equal to half the distance from anterior end of nostril to tip of maxilla, the more or less prominent gonydeal angle usually about midway between tip of mandible and malar antia, rarely anterior to the middle, more often decidedly posterior to the middle; nostril narrowly oval, elliptical, or linear, always separated from the latero-frontal antia, but width of intervening space variable. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by at least twice the distance from tips of the latter to bend of wing (except in *S. melanogastra*). Tail much more than half as long as wing, forked for more than half its length (except in *S. melanauchen*);^c the lateral rectrices more or less slender and attenuated (sometimes sub-acuminate) terminally. Tarsus sometimes longer, sometimes shorter, than middle toe without claw; webs with anterior margins moderately excised.

Plumage and coloration.—Occipital feathers normal (short and blended), except in *S. melanauchen*.^c Adults with at least part of pileum and nape uniform black (except in *S. trudeaui*) sometimes with a white frontal crescent, one species (*S. melanauchen*)^c with only the nape and a stripe through the eye black; rest of upper parts plain gray (more or less deep) to sooty black; under parts white or gray,

^a " . . . græcum Χελιδν, Hirundo marina, conservavimus." (Billberg.)

^b Μέλας (μελαρ-), black; + *Sterna*. (Richmond.)

^c *S. melanauchen* should probably be separated generically.

one species (*S. melanogastra*) with under parts of body mostly black. Downy young buffy or brownish above, irregularly spotted or marbled with blackish; in one species (*S. fuscata*) streaked above with dusky and buffy grayish, in varying relative proportion.*

Range.—Cosmopolitan. (Sixteen, or more, species.)

KEY TO THE SPECIES OF STERNA.

(Based on adults only.)

- a. Back, scapulars and wings clear gray, not darker (usually paler) than neutral gray, the tail white or mostly white; inner webs of primaries largely white.
- b. Pileum and nape immaculate white; under parts pale gray like upper parts; bill yellow with a subterminal band of black. (Coasts of southern South America, from Brazil to Chile; casual on Long Island and coast of New Jersey.)
Sterna trudeaui (p. 488).
- bb. Pileum, at least partly, the nape wholly black; under parts white or if gray the color decidedly paler than that of upper parts; bill not yellow nor with a black subterminal band.
- c. Pileum entirely black in summer.
- d. Inner web of lateral rectrix gray or dusky terminally, the outer web entirely white; bill orange; tarsus 21.5–24 mm., middle toe 19.5–22.5 mm. (Temperate North America, in winter southward to Guatemala.) *Sterna forsteri* (p. 490).
- dd. Inner web of lateral rectrix white throughout, the outer web gray or white; bill red or black; tarsus not more (usually much less) than 20 mm., middle toe not more (usually much less) than 19 mm.
- e. Outer web of outermost rectrix dark gray; under parts of body not pure white (more or less grayish); bill mostly red at all seasons; wing usually more than 235 mm.
- f. Tarsus, 17.5–20 mm., longer than middle toe without claw; tail forked for usually less than 102 mm.; under parts of body paler gray (pallid neutral gray to grayish white); bill and feet vermillion or orange-red (Northern Hemisphere; south in winter as far as southern Africa, India, and Brazil.) *Sterna hirundo* (p. 493).
- ff. Tarsus 13.5–17 mm., shorter than middle toe without claw; tail forked for usually more than 102 mm.; under parts of body deeper gray (pale neutral gray); bill and feet carmine red. (Northern portions of Northern Hemisphere in summer; said to winter in Antarctic Ocean.)
Sterna paradisaea (p. 490).
- ee. Outer (as well as inner) web of outermost rectrix white; under parts of body pure white (often suffused with pink); bill mostly black in summer, red basally in winter; wing usually less than 235 mm. (Nearly cosmopolitan in temperate and tropical regions, mostly along sea-coasts.) *Sterna dougalli* (p. 505).
- cc. Forehead and sides of crown white; a black stripe from bill to eye. (Coasts of Bering Sea and southward to Kadiak Island and Japan.)
Sterna aleutica (p. 510).

*It may be that *S. fuscata* should be separated generically (as *Onychoprion fuscatus*), on account of the conspicuously different young, both in down and in first plumage, and possibly some details of structure which, however, I have not been able to discover. But in this case *S. anetheta* and *S. lunata*, which have usually been associated with *S. fuscata* must remain in *Sterna*, for they do not agree with *S. fuscata* in coloration of the young.

- aa. Back, scapulars, and wings (also rump, upper tail-coverts, and six to ten middle rectrices) deep gray or blackish; inner webs of primaries wholly dusky.
- b. Back, etc., deep brownish gray (quaker drab), paler and grayer toward hindneck, the latter white, grayish white or pale gray. (*Sterna anætheta*.)
- c. Under parts distinctly tinged with gray; hindneck light gray or grayish white; lateral rectrices extensively brownish gray distally; this involving whole width of outer as well as inner web. (Philippine Archipelago and China Sea.).....*Sterna anætheta anætheta* (extralimital).^a
- cc. Under parts not distinctly if at all tinged with gray (practically white); hindneck white; lateral rectrices with very little brownish gray, this on terminal portion only and involving only inner portion of outer web or restricted to inner web.
- d. Larger, with stouter bill (wing 261-274, tail 147.5-188, tarsus 19-22.5, middle toe 22-25 mm.)
- e. Larger, with relatively longer or more slender bill (wing 260-274, tail 163-178, culmen 36-44 mm.); under parts of body faintly but distinctly tinged with gray. (Pacific coast of Mexico and Central America.)
- Sterna anætheta nelsoni* (p. 514).
- ee. Smaller, with relatively shorter or stouter bill (wing 251-263, tail 147-174, culmen 38-41 mm.); under parts of body pure white. (Caribbean Sea, Gulf of Mexico, and adjacent waters, north to Bahamas, etc.)
- Sterna anætheta recognita* (p. 512).
- dd. Smaller, with more slender bill (wing 206, tail 141, culmen 40, tarsus 18, middle toe 20.5 mm.). (Indian Ocean, west to Seychelles.)
- Sterna anætheta antarctica* (extralimital).^b
- bb. Back, etc., blackish brown or brownish black, the hindneck also blackish; young with under parts sooty brown. (*Onychoprion*.—*Sterna fuscata*.)

^a *Sterna anæthetus* Scopoli, Del. Floræ et Faunæ Insubr., ii, 1786, 92 (Panay Island, Philippine Archipelago); Saunders, Cat. Birds Brit. Mus., xxv, 1896, 101, part.—*Melanosterna anæthetus anæthetus* Mathews, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 402.—*Haliplana anætheta* Swinhoe, Proc. Zool. Soc. Lond., 1871, 422 (Pescadero Islands, China Sea).—[*Sterna*] *panaya* Latham, Index Orn., ii, 1790, 808 (Panay, Philippines).—*Sterna panaya* Vieillot, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 173.—[*Sterna*] *panayensis* Gmelin, Syst. Nat., i, pt. ii, 1789, 607 (Panay Island, Philippines).—*Sterna panayensis* Schlegel, Mus. Pays.-Bas, vi, no. 24, 1864, 26.—*Sterna panayana* Swinhoe, Proc. Zool. Soc. Lond., 1870, 603 (Hakodadi, Japan).—(?) *Haliplana keri* Boie, Isis, 1844, 190 (Japan).

^b *Sterna antarctica* Lesson, Traité d'Orn., 1831, 621 (Ile de France=Mauritius, near Madagascar, and Calcutta, India).—*Melanosterna anæthetus antarctica* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 402 (Seychelles; Mauritius; Laccadive Islands).—*Sterna melanopectera* Swainson, Birds West Africa, ii, 1837, 249 (West Africa; coll. Mus. Cambridge, England).—*Sterna anætheta* (not *S. anæthetus* Scopoli) Saunders, Cat. Birds Brit. Mus., xxv, 1896, 101, part.—*Sterna anæthetus* Ridgway, Proc. U. S. Nat. Mus., xviii, 1896, 510 (Mahé, Seychelles).—(?) *Onychoprion anæthetus* Walden, Ibis, 1874, 149 (South Andaman, Andaman Islands).—*Sterna panaya** (not of Latham) Fischer and Reichenow, Journ. für Orn., 1878, 247 (East Africa).

In addition to the subspecies given above, Mathews recognizes the following:

Sterna anætheta novæ-hollandiæ (*Melanosterna anæthetus novæ-hollandiæ* Mathews, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 397, 401; Australian seas).

Sterna anætheta fuligula (*Melanosterna anæthetus fuligula* Mathews, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 402; Red Sea).

I have not seen specimens of either of these forms.

- c. Under parts much more purely and extensively white, the gray tinge very faint and confined to posterior portions. (Tropical and subtropical portions of Atlantic Ocean.).....*Sterna fuscata fuscata* (p. 514).
- cc. Under parts much less purely white, the gray tinge much stronger and extending forward to chest.
- d. Lateral rectrices less elongated (135-170 mm.) and with inner webs more extensively dusky terminally. (Pacific coast of America, from Tres Marias to Galapagos islands.).....*Sterna fuscata crissalis* (p. 519).
- dd. Lateral rectrices more elongated (191-210 mm.) and with terminal portion of inner webs less extensively dusky. (Hawaiian Islands; Liu Kiu islands?).....*Sterna fuscata oahuensis* (extralimital).^a

STERNA TRUDEAUI Audubon.

TRUDEAU'S TERN.

Adults in summer (sexes alike).—General color plain pale gray (nearest lilac gray), paler (nearly white) on rump, upper tail-coverts and tail, fading into white on head and upper neck, the primary coverts and greater part of primaries still paler gray or silvery white, the outer web or outermost primary deeper gray than back, etc., the inner (proximal) primaries with inner webs becoming dusky toward edge and margined with white; a spot of black immediately in front of eye, and a less sharply defined postocular stripe of the same, occupying upper portion of auricular region; axillars and under wing-

^a *Sterna oahuensis* Bloxham, Voy. 'Blonde', 1826, 251 (Oahu, Hawaiian group).—*Onychoprion fuscatus oahuensis* Mathews, Birds Australia, ii, no. 4, Nov. 1, 1912, 394 (Hawaiian group).—*Planetis guttatus* Wagler, Isis, 1832, 1222 ("Waihu," i. e., Oahu; =young).—*Sterna guttata* Forster, Descr. Anim., ed. Lichtenstein, 1844, 211.—*Sterna fuliginosa* (not of Gmelin) Stejneger, Proc. U. S. Nat. Mus., xii, 1890, 379 (Kauai, Hawaiian group); Henshaw, Birds Hawaiian Islands, 1902, 122 (Oahu; Kauai; Laysan, breeding); Fisher (W. K.), Bull. U. S. Fish Com. for 1890, 11, pl. 2, figs. 1-4 (Laysan, breeding).—*Haliplana fuliginosa* Rothschild, Avifauna Laysan, etc., i, 1893, 39, pl. of nesting place.—(?) *Sterna fuliginosa crissalis* (not *Haliplana fuliginosa* var. *crissalis* Lawrence) Bangs, Bull. Mus. Comp. Zool., xxxvi, July, 1901, 256 (Liu Kiu Islands).

Besides the forms mentioned above, the following additional subspecies are recognized by Mr. Gregory Mathews:

Sterna fuscata serrata.—*Sterna serrata* Wagler, Naturl. Syst. Amphib., 1830, 89, footnote (New Caledonia); Reichenbach, Natat. Novit., 1850, p. lxxix, pl. 832, figs. 3635-3637.—*Onychoprion serratus* Gray, List Gen. Birds, 1840, 79.—*Haliplana serrata* Boie, Isis, 1844, 190.—*Sterna* (*Onychoprion*) *serrata* Gray, Cat. Birds Trop. Is. Pacific, 1859, 59.—*Onychoprion fuscatus serratus* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 389, 394 (Australian seas).—[*Sterna*] *gouldii* Reichenbach, Natatores, Larinae 1848, pl. 22, fig. 829; Nov. Syn. Av., 1850, [p. 2], pl. 272, fig. 2267-68.—*Onychoprion fuliginosus*? Gould, Birds Australia, vii, 1848, pl. 32.—*Sterna melanura* Gould, Proc. Zool. Soc. Lond., 1837, 156 (New South Wales; =young).

Sterna fuscata infuscata.—*St[erna] infuscata* Lichtenstein, Verz. Doubl., 1823, 81 (East Indies "et Insulis aleuticis").—*Haliplana infuscata* Boie, Isis, 1844, 190.—*Thalassipora infuscata* Rüppell, Syst. Ueb., 1845, 140 (Red Sea)—*Hydrochelidon infuscata* Heuglin, Orn. Nord Ost-Afrika, ii, 1873, 1457 (not of pp. 1512 and ccvi, which =*S. anætheta fuligula*).—*Onychoprion fuscatus infuscatus* Mathews, Birds Australia, ii, no. 4, Nov. 1, 1912, 394 (Indian Ocean).

coverts and broad tips to secondaries, immaculate white; bill yellow with a broad subterminal band or area of black; iris dark brown; legs and feet brownish in dried skin (said to be orange-yellow or dull orange in life).

Adults in winter.—Similar to summer adults, but stripe on side of head more grayish, especially the postocular portion, and (especially in fresh plumage) the silvery frosting on primaries more pronounced.

Immature (young in first winter?).—Similar to winter adults, but under parts pure white instead of pale gray, primaries darker, and bill more dusky or brownish, only the tip being distinctly yellow.

Young.—"The patch before and the streak behind the eye decidedly larger, and there is an indication of a grayish crescent on the nape; the crown grayish white, slightly mottled with brown, as are the feathers of the mantle; tail-feathers dark ash-gray with white margins; bill yellowish brown at the base, the rest blackish, with no yellow at the tip; tarsi and toes yellow."^a

Adult male.—Wing, 264; tail, 140; exposed culmen, 38.5; tarsus 22; middle toe, 21.^b

Coast of southern South America, from Brazil (Rio de Janeiro; Santa Catarina; São Paulo) through Uruguay (Maldonado) and Argentina (Estado del Plata; southern Chaco; Punta Lara; Buenos Aires; Ajó; Rancho, breeding; Estancia Espartilla, breeding; Barracas al Sud; San Martín; Monte) to Chile (Arica Bay); accidental on coast of New Jersey (Great Egg Harbor), and on Long Island.

Sterna trudeaui AUDUBON, Birds Am., fol. ed., iv, 1838, pl. 409, fig. 2 (Great Egg Harbor, New Jersey; type now in coll. U. S. Nat. Mus.); Orn. Biog., v, 1839, 125; Synopsis, 1839, 319.—GAY, Hist. Chile, i, 1847, 484.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 542 (mongr.); Check List, 1873, no. 571; 2d ed., 1882, no. 802; Birds Northwest, 1874, 675.—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 29 (Brazil).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (coast New Jersey).—LANDBECK, Anal. Univ. Chile, xli, 1872, 515.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 208; Nom. N. Am. Birds, 1881, no. 684.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 290.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 68; 3rd ed., 1910, p. 44.—DABBENE, Orn. Argent., 1910, 211 (s. Chaco; Estado del Plata).

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 131.

Notwithstanding that *S. trudeaui* in its adult plumages is unlike any other species in coloration, the immature and young plumages resemble very closely those of *S. forsteri*. The latter may, however, always be distinguished by the darker terminal portion to the inner webs of the lateral rectrices, which are relatively narrower and more elongated, decidedly shorter hallux, and differently shaped bill, which is more slender and at least relatively less deep basally. According to Saunders, the young (which I have not seen) of *S. trudeaui* has the crown and nape paler, with less distinct mottlings.

^b One specimen. Three other specimens, adults and fully grown immature birds of undetermined sex, measure as follows: Wing, 248–276 (256.7); tail, 114–142 (125.3), exposed culmen, 39–42 (40.2); tarsus, 22.5–24.5 (23.7); middle toe 19–22 (20.7).

- [Sterna] trudeaui* GRAY, Gen. Birds, iii, 1846, 659.—COUES, Key N. Am. Birds, 2d ed., 1884, 767.—RIDGWAY, Man. N. Am. Birds, 1887, 41.
- [Sterna] trudeaui* PELZELN, Orn. Bras., 1870, 461.—COUES, Key N. Am. Birds, 1872, 322.—SHARPE, Hand-list, i, 1899, 137.
- Sterna trudeaui* AUDUBON, Birds Am., 8vo. ed., vii, 1844, 105, pl. 435.—GIRAUD, Birds Long Island, 1844, 354.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 861.—BAIRD, Cat. N. Am. Birds, 1859, no. 687.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 570 (monogr.).—ORTON, Am. Nat., iv, 1871, 716 (Audubon's type said to be in coll. Mus. Vassar College).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 660 (monogr.); 1891, 373 (Argentina; descr. eggs); Cat. Birds Brit. Mus., xxv, 1896, 130 (Rio de Janeiro and Santa Catarina, Brazil; Maldonado, Uruguay; Punta Lara, Buenos Aires, and Ajo, Argentina; Chile).—DURNFORD, Ibis, 1877, 200 (Province of Buenos Aires, Argentina).—TACANOWSKI, Orn. du Pérou, iii, 1886, 443.—SCLATER and HUDSON, Argentine Orn., ii, 1888, 195.—HOLLAND, Ibis, 1890, 428 (near Ranchos, Argentina; descr. nest and eggs); 1892, 212 (Estancia Espartilla, Argentina; habits; descr. eggs).—HOLMBERG, Segundo censo Argentina, 1898, 558.—IHERING, Revista Mus. Paulista, iii, 1899, 446 (São Paulo, a. Brazil).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 253 (Barracas al Sud, San Martin, and Monte, Buenos Aires, Argentina, Jan., June).—GRANT (C. H. B.), Ibis, 1911, 473 (Los Inglesas, Linconia, and Tuyu, Argentina, Oct.–March).
- [Sterna] trudeaui* GRAY, Hand-list, iii, 1871, 118, no. 11027.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 55 (Chile).
- Gelochelidon trudeaui* BOIE, Isis, 1844, 187.
- [Thalasseus] trudeaui* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- Phaethusa trudeaui* BLASIUS, Journ. für Orn., 1866, 73 (monogr.).
- [Phaethusa] sellorvi* LICHTENSTEIN, Nomencl. Av. Mus. Berol., 1854, 98 (*nomen nudum*; Maldonado, Uruguay; coll. Berlin Mus.).
- Sterna frobenii* PHILIPPI and LANDBECK, Wiegmann's Archiv für Naturg., xxix, pt. 1, 1863, 125 (Arica Bay, Chile).—LANDBECK, Anal. Univ. Chile, 1872, 515.
- Sterna frobenii* PHILIPPI and LANDBECK, Cat. Av. Chile., 1869, 49.
- [Sterna] frobenii* GRAY, Hand-list, iii, 1871, 118, no. 11032.
- (?) *[Phaethusa] chloropoda* (not *Sterna chloropoda* Vieillot) HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355 (Chile).

STERNA FORSTERI Nuttall.

FORSTER'S TERN.

Adults in summer (sexes alike).—Pileum and nape uniform black; rest of upper parts, including rump, upper tail-coverts, and tail, pallid neutral gray, the primaries with a velvety surface, especially in unworn plumage; inner webs of elongated outermost rectrices darker (sometimes quite dusky) terminally, the outer webs white; inner webs of primaries without any well-defined white space, except on two outermost, the remaining quills usually with edge of inner web more or less dusky; tips of secondaries, anterior upper tail-coverts, lateral and under portions of head and neck, and entire under parts, including axillars and under wing-coverts, immaculate white; bill dull orange, with terminal third (more or less) black or

dusky; iris dark brown; legs and feet intense orange or orange-red (in life).

Adults in winter.—Similar to the summer plumage, but pileum white, tinged on occiput and nape with grayish, the side of head with a dusky stripe surrounding eye and extending along upper portion of auricular region; tail with lateral rectrices relatively shorter and broader; bill duller orange, and feet paler or less intense orange-red.

Young.—Similar to winter adults, but pileum, hindneck, back, scapulars, tertials, and wing-coverts overlaid or washed with brown, this nearly uniform on crown and back, the sides of head tinged with the same; rectrices all distinctly dusky terminally, especially on inner webs.

Downy young.—Upper parts light buffy brown or avellaneous, irregularly spotted or marbled with black; under parts slightly paler buffy brown, passing into nearly brownish white on chest, breast, and abdomen, the throat usually more or less strongly suffused with sooty; bill light brownish basally, dusky terminally; feet pale brownish.

Adult male.—Wing, 246–269 (258.4); tail, 151–218.5 (174.2); exposed culmen, 38–42 (39.4); tarsus, 22.5–24 (23.2); middle toe, 20–22.5 (21).^a

Adult female.—Wing, 242–264 (255.6); tail, 140–168.5 (158.5); exposed culmen, 37–41 (39); tarsus, 21.5–24 (22.8); middle toe, 19.5–22.5 (20.8).^b

Breeding from southern Oregon (Lower Klamath Lake; Tule Lake), Saskatchewan (Saskatchewan River), Manitoba (Lake Manitoba; Lake Winnipeg; Lake Winnipegosis; Shoal Lake; Waterhen River; Selkirk) southward to interior lakes and marshes of California (tule marshes near Sacramento; Eagle Lake; Lake Tahoe), Nevada (marshes near sink of Humboldt River; Ruby Lake; Franklin Lake), Utah (marshes of Utah Lake and Great Salt Lake), northern Colorado, northern Nebraska, Minnesota (Grant, Traverse, and Becker counties), northeastern Illinois (Cook County), and southern Ontario (Mohawk Island, in Lake Erie; St. Clair Flats);

^a Thirteen specimens.

^b Eleven specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
Ten adult males from coast of Virginia.....	256.8	176.2	39.5	23.2	21
Three adult males from California (2) and Nevada (1).....	263.7	167.3	39.2	23.2	20.8
FEMALES.					
Ten adult females from coast of Virginia.....	254.8	157.7	39.1	22.8	20.8
One adult females from Nevada.....	264	166	37.5	23	21

also along Atlantic and Gulf coasts of United States, locally, from New Jersey (Seven Mile Beach) and Virginia (Cobbs Island, etc.), to Texas (Galveston Bay; Fort Brown); casual northward to Massachusetts (Ipswich Beach, Sept., 1870); wintering from southern California, Gulf coast, and coast of South Carolina southward to Guatemala (Lake of Dueñas) and along Pacific coast to Sinaloa (Mazatlán, Oct. to April) and Oaxaca (San Mateo; Ventosa Bay, Dec., Feb.); accidental off coast of Brazil (off Pernambuco).

Sterna hirundo (Variety) FORSTER, Philos. Trans., lxii, 1772, 421 (Churchill River?, Hudson Bay).

[*Sterna hirundo*] β . LATHAM, Index Orn., ii, 1790, 808 (cites *Sterna hirundo*, var. Forster).

Sterna hirundo (not of Linnæus) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 412 (Saskatchewan River).

Sterna forsteri NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 274, footnote (Saskatchewan River; based on *S. hirundo* Swainson and Richardson).—LAWRENCE, Ann. Lyc. N. Y., v, 1852, 222 (California; crit.); viii, 1867, 299 (vicinity New York City); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 862; Mem. Bost. Soc. N. H., ii, 1874, 318 (Mazatlan, Sinaloa, Oct. to April); Bull. U. S. Nat. Mus., no. 4, 1876, 51 (San Mateo and Ventosa Bay, Oaxaca, Dec., Feb.).—BAIRD, Cat. N. Am. Birds, 1859, no. 691.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 544 (monogr.); 1866, 99 (Arizona); 1871, 44 (Fort Macon, North Carolina); Ibis, 1864, 390 (Lake of Dueñas, Guatemala); Proc. Essex Inst., v, 1868, 308 (New England); Check List, 1873, no. 566; 2d ed., 1882, no. 798; Birds Northwest, 1874, 676.—SCHLEGEL, Mus. Pays-Bas., vi, no. 24 (Sternæ), 1864, 19.—SALVIN, Ibis, 1866, 199 (Dueñas, Guatemala).—ELLIOT, New and Unfig. N. Am. Birds, i, 1869, Introd. (tail figured).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 569 (monogr.).—SNOW, Birds Kansas, 1873, 12 (migrant).—MERRIAM, Sixth Am. Rep. U. S. Geol. Surv. Terr., 1873, 704 (Marsh Creek, Idaho, breeding).—HENSCHAW, Ann. Lyc. N. Y. xi, 1875, 13 (marshes of Great Salt Lake, Utah, breeding); Rep. Zool. Exped. 100th Merid., 1875, 486 (Utah Lake, Utah, breeding).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 65 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 46 (Lake of Dueñas, Guatemala, Oct. 28; Tehuantepec-Oaxaca, Feb.; at sea 200-300 miles off Pernambuco, Brazil, etc.).—JOUR, Field and Forest, 1877, 181 (District Columbia).—RIDGWAY, Bull. Essex Inst., v, 1873, 173 (Great Salt Lake, Utah, breeding); Orn. Fortieth Parallel, 1877, 639 (Sacramento, California, June; Pyramid, Ruby, and Franklin Lakes and Humboldt marshes, Nevada, breeding; Great Salt Lake, Utah, breeding); Proc. U. S. Nat. Mus., iii, 1880, 208; Nom. N. Am. Birds, 1881, no. 685.—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 65 (Galveston, Texas, breeding; habits).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 172 (Fort Brown, Texas, breeding; descr. nest and eggs).—ROBERTS and BENNER, Bull. Nutt. Orn. Club, v, 1880, 20 (Grant and Traverse Counties, Minnesota, breeding).—BREWSTER, Bull. Nutt. Orn. Club, vii, 1882, 126 (Cobbs Island, Virginia, breeding); Auk, vi, 1889, 66 (near Chatham, Massachusetts, Oct. 2, 1888; Bull. Mus. Comp. Zool., xli, no. 1, 1902, 25 (San José del Cabo, Lower California, Dec. 15 to May 17).—NEHRLING, Bull. Nutt. Orn. Club, vii, 1882, 225 (coast of s. e. Texas, breeding).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 546 (Cape San Lucas district, Lower California).—BAIRD, BREWER, and RIDGWAY, Water Birds North Am., ii, 1884, 292.—DREW, Auk, ii, 1885, 18 (Colorado, up to 6,000 ft.).—

- AGERSBERG, Auk, ii, 1885, 289 (s. e. South Dakota).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 69; 3d ed., 1910, p. 44.—SEYTON, Auk, iii, 1886, 147. (Lake Manitoba, Lake Winnipeg, Lake Winnipegosis, Shoal Lake, Waterhen River, and Selkirk, Manitoba, breeding).—TOWNSEND, Proc. U. S. Nat. Mus., x, 1888, 192 (n. California, breeding).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 644 (Corpus Christi, Texas).—PINDAR, Auk, vi, 1889, 81 (Fulton County, Kentucky, breeding).—SHICK, Auk, vii, 1890, 327 (Seven Mile Beach, New Jersey, breeding).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 469 (Lake Winnipeg, etc., Manitoba, breeding).—RHODES, Proc. Ac. Nat. Sci. Phila., 1892, 101 (Corpus Christi, Texas).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 402 (Matatlan, Sinaloa; San Mateo and Ventosa Bay, Oaxaca; Lake of Dueñas, Guatemala; off Pernambuco, Brazil).—FINLEY, Condor, ix, 1907, 97, in text (Lower Klamath and Tule lakes, s. Oregon, breeding).—ROBERTS, in Wilcox's Hist. Becker Co., Minn., 1907, 162 (breeding).—LINTON, Condor, x, 1908, 196 (Buena Vista Lake, Kern Co., California, May, June).—GOLDMAN, Condor, x, 1908, 201 (Tulare Co., California, June).—GRINNELL (J.), Pacific Coast Avif., no. 11, 1915, 24 (California range; breeding at Eagle Lake, Lake Tahoe, Sacramento, etc.; wintering sparingly north to Santa Cruz and Stockton).
- [*Sterna*] *forsteri* GRAY, Hand-list, iii, 1871, 118, no. 11026.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—SHARPE, Hand-list, i, 1899, 134.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54 (Cobbs Island, Virginia).
- Sterna forsteri* RIDGWAY, Bull. Essex Inst., vii, 1875, 16 (Truckee Valley, Nevada, breeding), 23 (Sink of Humboldt River, breeding), 31 (Great Salt Lake, Utah, breeding); Ann. Lyc. N. Y., x, 1874, 391 (Illinois); Man. N. Am. Birds, 1887, 42.—NELSON, Bull. Essex Inst., viii, 1876, 147 (n. e. Illinois, breeding; habits; descr. nest and eggs).—COUES, Key N. Am. Birds, 2d ed., 1884, 763.—SCOTT, Auk, iv, 1887, 274, 278, in text (w. coast Florida, May).
- [*Sterna*] *forsterii* COUES, Key N. Am. Birds, 1872, 321.
- Sterna havelli* AUDUBON, Birds Am., fol. ed., 1838, pl. 409, fig. 1 (Louisiana, opposite New Orleans;=young); Orn. Biog., v, 1839, 122.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 861.—BAIRD, Cat. N. Am. Birds, 1859, no. 686.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 543 (monogr.).—BREWSTER, Am. Nat., vi, 1872, 306 (Ipswich Beach, Massachusetts, Sept., 1870).
- Sterna havelli* GRAY, Gen. Birds, iii, 1846, 659.
- [*Sterna*] *havelli* GRAY, Hand-list, iii, 1871, 118, no. 11028.
- Sterna havellii* AUDUBON, Synopsis, 1839, 318; Birds Am., 8vo. ed., vii, 1844, 103, pl. 434.
- Gelochelidon havelli* BOIE, Isis, 1844, 187.
- [*Gelochelidon*] *havelli* BONAPARTE, Compt. Rend., xlii, 1856, 772.

STERNA HIRUNDO Linnaeus.

COMMON TERN.

Adults in summer (sexes alike).—Pileum and nape, including upper half of lores, uniform black; rest of upper parts pale neutral gray, the edge of wing, tips of secondaries, lower part of rump, upper tail-coverts, and greater part of tail immaculate pure white; under parts of body uniform pallid neutral gray to grayish white, fading into

white on under and lateral portions of head, the under tail-coverts, axillars, and under wing-coverts pure white; outer web of outermost rectrix gray, becoming darker terminally, in abrupt contrast with the pure white of inner web, the outer webs of remaining rectrices (except middle pair) pale gray; outer web of outermost primary blackish slate, of the other primaries pale silvery gray; inner webs of distal primaries for the most part white but with a stripe of grayish next to shaft, this stripe abruptly defined on outer five quills but becoming gradually broader and paler toward the fifth, and extending round tip of web and returning toward base as a sub-edging, the edge itself white; five inner (proximal) primaries with inner webs pale silvery gray edged with white; bill vermilion red, blackish terminally, except on tomia; inside of mouth orange-vermilion; edges of eyelids black; iris dark brown; legs and feet orange-vermilion.

Adults in winter.—Similar to summer adults, but forehead, crown, and anterior part of lores white, the crown intermixed with black; only the occiput and nape uniform black; under parts pure white.

Young.—Orbital region, occiput, and nape black; crown mixed black and grayish white; forehead, loreal region, sides of head (below orbital region), entire under parts, upper tail-coverts, inner webs of rectrices, and tips of secondaries, white; upper parts (except as described) pale gray, the scapulars, interscapulars, and tertials tipped with pale buff and marked with a subterminal lunule of dusky brown or grayish brown; anterior lesser wing-coverts dusky, forming a broad bar across anterior portion of wing; primaries much as in adults, but darker; larger wing-coverts pale gray, indistinctly margined or edged with white; outer webs of rectrices grayish, much darker on outermost pair; bill dusky brownish, the mandible paler and more reddish basally; legs and feet pale yellowish in dried skins (flesh color in life?).

Downy young.—Upper parts pale grayish buff or light brownish buff (dull avellaneous), irregularly spotted or marbled with blackish, except on forehead; under parts immaculate white or buffy white, the throat more or less suffused with sooty, sometimes uniform sooty.

Adult male.—Wing, 256–273 (265.6); tail, 128–174 (148.9); exposed culmen, 33–39 (37.2); tarsus, 18–20.5 (19.2); middle toe, 16.5–18 (17.3).^a

Adult female.—Wing, 235–273 (257.7); tail, 132.5–161.5 (147.4); exposed culmen, 32–40.5 (35.7); tarsus, 17.5–20 (18.9); middle toe, 16–18 (17.1).^b

Breeding from Mackenzie (Great Slave Lake), central Keewatin, southern Ungava, and Newfoundland southward to coast of North

^a Fifteen specimens.

^b Seventeen specimens.

Carolina (Pimlico Sound), western Pennsylvania (Cedar Point, Erie County), northern Ohio, southern Ontario (Point Pelee and adjacent islands in Lake Erie), northeastern Illinois (Cook County), Michigan (Charity Island and other islands in Lake Michigan north of lat. 44°), Manitoba (Lake Winnipeg, etc.), and southern Saskatchewan, and Alberta (Alix); also on coast of Texas and Louisiana, on island of Bonaire, Dutch West Indies, and, formerly, in Bermudas; occasional during migration in British Columbia (Comox, 2 specimens, Sept. 24, 1903; west coast Vancouver Island), California (common migrant along coast), Arizona (San Pedro, Sept. 3, 1872), Colorado (New Windsor, May 14, 1908), and other parts of the interior; migrating to Bahamas (Abaco), Jamaica, Grenada, Venezuela (Cumaná), Panamá (Gatún Lake, June 9 and Dec. 3), Cayenne, Brazil (Bahia), etc.; in Eastern Hemisphere breeding in temperate portions of Europe and Asia, migrating southward to southern Africa, India, Ceylon, etc.

[*Sterna*] *hirundo* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 137 (Sweden); ed. 12, i, 1766, 227.—GMELIN, Syst. Nat., i, pt. ii, 1789, 606.—LATHAM, Index Orn., ii, 1790, 807.—COUES, Key N. Am. Birds, 1872, 320.—CORY, List Birds West Ind., 1885, and revised ed., 1886, 33 (Bahamas).

Sterna hirundo BODDART, Tabl. Pl. Enl., 1783, 57 (Pl. Enl., pl. 987).—BECHSTEIN, Naturg. Deutschl., 1791, 828.—TEMMINCK, Cat. Syst., 1807, 184; Man. d'Orn., 1815, 481; ii, 1820, 740; iv, 1840, 458.—MEYER and WOLF, Taschenb., ii, 1810, 459.—WILSON, Am. Orn., vii, 1813, 76, pl. 60, fig. 1.—KOECH, Syst. baier. Zool., 1816, 366.—LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 41.—NILSSON, Orn. Suec., 1817, 156.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 172; Faune Franç., Ois., 1828, 401.—BOIE, Isis, 1822, 563, 882.—BREM, Beitr. Vogelk., iii, 1822, 678; Lehrb., 1824, 688; Vög. Deutschl., 1831, 781.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1825, 150.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 354; Geog. and Comp. List, 1838, 61.—WERNER, Atlas, Palmipèdes, 1828, pl. 6.—FLEMING, Brit. Anim., 1828, 143.—KAUP, Natürl. Syst., 1829, 26.—LESSON, Traité d'Orn., 1831, 621.—SAVI, Orn. Tosc., iii, 1831, 85.—JARDINE, ed. Wilson's Am. Orn., ii, 1832, 368.—SELBY, Brit. Birds, ii, 1833, 468, pl. 90, fig. 1.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 271.—JENYNS, Man. Brit. Vertebr., 1835, 266.—GOULD,

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Europe.....	268.7	154	36.2	19.2	17.2
Ten adult males from coast of Virginia.....	263.7	145.8	37.7	19.2	17.3
FEMALES.					
Seven adult females from Europe (6) and Syria (1).....	262.4	142.9	35.7	18.6	16.9
Ten adult females from coast of Virginia (9) and District of Columbia (1).....	264.4	150.1	35.7	19.2	17.1

Birds Europe, v, 1837, pl. 417 and text; Birds Great Brit., v. 1873, pl. 70 and text.—AUDUBON, Orn. Biog., iv, 1838, 74, pl. 309; Synopsis, 1839, 318; Birds Am., 8vo. ed., vii, 1844, 97, pl. 433.—SCHINZ, Eur. Faun., 1840, 373.—NAUMANN, Vög. Deutschl., x, 1840, 89, pl. 252.—SELYS-LONGCHAMPS, Faune Belge, 1842, 150.—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 231; Brit. Birds, v, 1852, 638.—YARBELL, Brit. Birds, iii, 1843, 396; 2d ed., iii, 1845, 504.—GIRAUD, Birds Long Is., 1844, 347.—GRAY, List Birds Brit. Mus., Anseres, 1844, 177; Cat. Brit. Birds, 1863, 240.—SCHLEGEL, Rev. Crit., 1844, p. cxxix; Vog. Nederl., 1854, 608, pl. 357; Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 17.—DE KAY, N. Y. Zool., Birds, 1844, 298, pl. 125, figs. 275, 276.—GIRAUD, Birds Long Island, 1844, 342.—HEWITSON, Eggs Brit. Birds, ii, 1846, 427, pl. 120, fig. 1.—REICHENBACH, Natatores, 1848, pl. 19, figs. 269-273; Syst. Nat., 1850, pl. 4; Av. Syst. Nat., Longipennes, 1852, p. v.—JARDINE, Contr. Orn., 1849, 80 (Bermudas, summer resident); 1850, 6 (Bermudas).—DEGLAND, Ois. Eur., ii, 1849, 342.—THOMPSON, Birds Ireland, iii, 1851, 281.—KJÆRBØLLING, Danm. Fugle, 1852, 329, pl. 40A; Suppl., 1854, pl. 20, fig. 3.—HEUGLIN, Syst. Ueb., 1856, 70 (n. Egypt).—JONES, Naturalist in Bermuda, 1859, 91.—BLAND, An. Rep. Smithsonian Inst., 1859, 288 (Bermudas).—LINDERMAYER, Vög. Griechenl., 1860, 178.—HINTS, Journ. für Orn., 1861, 229 (migrations).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 547 (monogr.); Check List, 1873, no. 565; 2d ed., 1882, no. 797; Birds Northwest, 1874, 680.—VERRILL, Proc. Essex Inst., iii, 1862, 160 (coast Maine, breeding).—SUNDEVALL, Svensk Fagl., 1863, pl. 48, fig. 4.—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City); Proc. U. S. Nat. Mus., viii, 1885, 623 (Guadeloupe).—JERDON, Birds India, iii, 1864, 839.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 456.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 201.—FRITSCH, Vög. Eur., 1870, 458, pl. 54, fig. 4.—ELWES and BUCKLEY, Ibis, 1870, 337 (Constantinople, Turkey).—SWINHOE, Ibis, 1871, 422 (China).—GODMAN, Ibis, 1872, 222 (Canary and Madeira).—PALMÉN, Finlands Fagl., 1873, 568.—TACZANOWSKI, Journ. für Orn., 1873, 111 (e. Siberia).—HENSHAW, Zool. Exped. West of 100th Merid., 1875, 486 (San Pedro, Arizona, Sept. 3, 1872).—BAILEY (H. B.), Bull. Nutt. Orn. Club, i, 1876, 28 (Cobb's Island, Virginia, breeding).—LANGDON, Birds Cincinnati, 1877, 18.—RATHBUN (F. R.), Revised List Birds Centr. N. Y., 1879, 41 (Seneca Lake, 1 spec., June; Owasco Lake).—CORY, Birds Bahama Is., 1880, 211; Auk, v, 1888, 77 (accidental in Bahamas; references); Cat. West Ind. Birds, 1892, 82 (Abaco Island, Bahamas; Jamaica); Pub. 137 Field Mus. N. H., 1909, 194 (Aruba, Dutch West Indies).—SEEBORN, Ibis 1882, 230 (Astrakhan); Hist. Brit. Birds, iii, 1885, 280.—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 401 (Magdalen Islands, breeding; habits; Bull. Mus. Comp. Zool., xli, no. 1, 1902, 25 (San José del Cabo, Lower California, Sept. 5-30).—SEVERTZOW, Ibis, 1883, 77 (Pamir range, central Asia, breeding).—MARSHALL, Ibis, 1884, 425 (Chamba, n. w. Himalayas).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 295.—RADDE, Orn. Caucas., 1884, 486.—BUTLER, Bull. 2, Brookville Soc. N. H., 1886, 14 (Franklin Co., Indiana, 1 spec. June 3, 1884).—SETON, Auk, iii, 1886, 147 (w. Manitoba, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 70; 3d ed., 1910, p. 44.—SALVADORI, Ucc. Ital., 1887, 276.—EVERMANN, Auk, v, 1888, 346 (Lake Maxinkuckee, Indiana, May 11).—PINDAR, Auk, vi, 1889, 311 (Fulton Co., Kentucky, summer resident).—SHICK, Auk, vii, 1890, 327 (Seven Mile Beach, New Jersey, breeding).—KOENIG, Journ. für Orn., 1890, 457 (Canary Islands); 1893, 98 (Tunis).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1900, 469 (Lake Winnipeg, etc., Manitoba, breeding).—GATKE,

- Vogelw. Helgoland, 1891, 585.—HARTERT, Ibis, 1893, 309 (Aruba; Bonaire; crit.), 326 (Curacao), 337 (Bonaire, breeding); Novit Zool., ix, 1902, 309 (Aruba; Bonaire).—RHODES, Auk, xvi, 1899, 309 (Allegheny River, w. Pennsylvania, 1 spec. Oct. 8, 1892).—COBEAUX, Ottawa Nat., 1900, 25 (s. Saskatchewan, breeding).—NORTON, Proc. Portl. Soc. N. H., ii, 1901, 157 (Gut of Canso, Labrador).—BROOKS, Auk, xxi, 1904, 289 (Comox, Brit. Columbia, 2 specs. Sept. 24, 1903).—EHRIG, Auk, xxii, 1905, 236 (Hudson Bay).—JONES, Wilson Bull., n. s., xiii, 1906, 35, 43 (life history, with photographic illustrations); xxi, 1909, 70 (Cedar Point, Erie Co., Pennsylvania, breeding).—TAVERNER and SWALES, Wilson Bull., no. 59, 1907, 50 (Point Pelee, Ontario; breeding abundantly on adjacent islands in Lake Erie).—WILLETT, Condor, x, 1908, 50 (Alamitos Bay, California, Sept. 25, 1907).—PREBLE, North Am. Fauna, no. 27, 1908, 272 (breeding to northward of Great Slave Lake).—KERMODE, Provincial Mus. Victoria, 1909, 25 (w. coast Vancouver Island).—COOKE, Auk, xxvi, 1909, 314 (New Windsor, Colorado, 1 spec. May 14, 1908).—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 64 (Monterey Bay, California, April, May, Aug., Oct.), 109 (California specs. in coll. Calif. Acad. Sci.).—PHILIPP, Auk, xxvii, 1910, 313 (Pamlico Sound, North Carolina, breeding).—WOOD and GAIGE, Pub. 4, Mich. Geol. and Biol. Surv., 1911, 277 (breeding in Michigan north of lat. 44°).—ISELY, Auk, xxix, 1912, 38 (Sedgwick Co., Kansas, migrant).—ARNOLD, Auk, xxix, 1912, 75 (Newfoundland, breeding).—WOOD (N. A.), 14th Rep. Mich. Acad. Sci., 1912, 180 (Charity Island, Michigan, breeding).—TOWNSEND (C. W.), Auk, xxix, 1912, 19 (St. John's River, etc., New Brunswick); xxx, 1913, 5 (Nataashquam River, Labrador).—LÖNNBERG, Ibis, 1913, 301 (crit. on name).—JEWELL, Auk, xxx, 1913, 423 (Gatun Lake, Panama, June 9, 1912; Gatun, Dec. 3).—GRINNELL (J.), Pacific Coast Avif., No. 11, 1915, 24 (California: common migrant along coast).—HORSBROUGH, Ibis, 1916, 675 (Alix, Alberta, breeding).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 47 (Porto Rico, Aug.).—PHILIPP and BOWDISH, Auk, xxxiv, 1917, 265 (n. New Brunswick, breeding).—MERWIN, Auk, xxxv, 1918, 74 (Thousand Islands, breeding).
- Sterna* *hirundo* BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [208].—GRAY, Gen. Birds, iii, 1846, 659.—MAXIMILIAN, Journ. für Orn., 1859, 258.—RIDGWAY, Ann. Lyc. N. Y., x, 1875, 391 (Illinois); Man. N. Am. Birds, 1887, 43.—NELSON, Bull. Essex Inst., viii, 1876, 147 (n. e. Illinois, abundant migrant, a few breeding).—COUES, Key N. Am. Birds, 2d ed., 1882, 762.
- Sterna* *hirundo* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 246.—MARTENS, Journ. für Orn., 1859, 222 (Bermudas).
- Sterna* . . . *hirundo* FORSTER, Philos. Trans., lxii, 1772, 421 (Churchill River, Keewatin).
- Larus* *hirundo* SCOPOLI, Ann. I, Hist. Nat., 1769, 82.
- Hydrocecropis* *hirundo* BOIE, Isis, 1844, 179.
- Larus* *bicolor* SCOPOLI, Ann. I, Hist. Nat., 1769, 81 (= immature).
- Larus* *sterna* SCOPOLI, Ann. I, Hist. Nat., 1769, 82 (= immature).
- (?) *Larus* *columbinus* SCOPOLI, Ann. I, Hist. Nat., 1769, 82 (= young).
- Sterna* *fluvialis* NAUMANN, Isis, 1819, 1847, 1848 (rivers of Schleswig-Holstein).—BREHM, Vög. Deutschl., 1831, 779.—SALVADORI, Ucc. Sardinia, 1864, 122; Faun. Ital., Ucc., 1871, 280.—HARTING, Handb. Brit. Birds, 1872, 75.—DRESSER, Birds Europe, viii, 1872, 263, pl. 580.—SHELLEY, Birds Egypt, 1872, 299.—GURNEY, in Andersson's Damara-Land, 1872, 361.—HEUGLIN, Orn. N. Ost-Afr., Bd. 2, pt. 2, 1873, 1418.—BROOKE, Ibis, 1873, 346 (Sardinia).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 649 (monogr.); ed. Yarrell's Brit. Birds, iii, 1884, 549; Man. Brit. Birds, 1889, 631; Cat. Birds Brit. Mus., 40017—19—Bull. 50, pt 8—33

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- [*Sterna fluviatilis* GRAY, Hand-list, iii, 1871, 118, no. 11021.—SHARPE, Hand-list, i, 1899, 135.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54 (Cumana, Venezuela; etc.).
- Sterna nitzschii* KAUF, Isis, 1824, 153.
- [*Sterna*] *nitzschii* GRAY, Gen. Birds, iii, 1846, 659.
- Sterna pomarina* BREHM, Vög. Deutschl., 1831, 781.
- Sterna marina* EYTON, Cat. Brit. Birds, 1836, 55.
- Sterna senegalensis* SWAINSON, Birds West Africa, ii, 1837, 250.—HARTLAUB, Orn. W.-Afr., 1857, 255.—CASSIN, Proc. Ac. Nat. Sci. Phila., 1859, 176 (Camma River, w. Africa).—SCHLEGEL, Mus. Pays-Bas, vi, Sternae, 1863, 16, 17.—BOCAGE, Journ. Lisb., 1867, 149.
- [*Sterna*] *senegalensis* GRAY, Gen. Birds, iii, 1846, 659.
- Hydrocecropis senegalensis* BOIE, Isis, 1844, 179.
- Sterna wilsoni* BONAPARTE, Geog. and Comp. List, 1838, 61 (based on *Sterna hirundo* Wilson).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 861.—BAIRD, Cat. N. Am. Birds, 1859, no. 689.—BRYANT (H.), Proc. Bost. Soc. N. H., vii, 1859, 134 (Bahamas).—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 247 (Rigolet, Labrador; habits).—DRESSER, Ibis, 1866, 44 (s. Texas).—PELZELN, Orn. Bras., 1870, 325.—SNOW, Birds Kansas, 1873, 12.
- [*Sterna*] *wilsoni* ALBRECHT, Journ. für Orn., 1861, 58 (Bahamas).—PELZELN, Orn. Bras., 1870, 461.—GRAY, Hand-list, iii, 1871, 118, no. 11024.
- Sterna wilsonii* BLAKISTON, Ibis, 1863, 153 (Mackenzie River and Nelson River, Mackenzie).
- Hydrocecropis wilsoni* BOIE, Isis, 1844, 179.
- Sterna blasii* BREHM, Naumannia, 1855, 295 (= *Sterna hirundo* auct.); Vogelf., 1855, 348.
- Sterna* —? COUES, Ibis, 1864, 389 (San José, Guatemala).
- Sterna macrodactyla* BLASIUS, Journ. für Orn., 1866, 75, 79 (Cape of Good Hope).
- Sterna macroptera* BLASIUS, Journ. für Orn., 1866, 76, 79 (Cape of Good Hope).—FINSCH, Trans. Zool. Soc. Lond., vii, 1870, 303 (Zoulla).—HEUGLIN, Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1418.—REICHENOW, Journ. für Orn., 1877, 10 (Loango).—BOCAGE, Orn. Angola, 1881, 510.
- [*Sterna*] *macroptera* GRAY, Hand-list, iii, 1871, 118, no. 11023.
- Sterna hirundo macroptera* HARTERT, Kat. Vogelsamml. Mus. Senckenb., 1391, 239.

Sterna dougalli (not of Montagu) LAYARD, Birds South Africa, 1867, 369.—CHAPMAN, Trav. S. Africa, 1868, 424.

Sterna tibetana SAUNDERS, Proc. Zool. Soc. Lond., 1876, 649.—HUME, Stray Feathers, v, 1877, 485 (Tibet, n. of Sikkim, India); viii, 1879, 158 (Tonka, Malay Peninsula).

Sterna major OLPHÉ-GAILLIARD, Contr. Faun. Orn. Eur. Occ., pt. x, 1886, 28.

[*Sterna paradisæa*]^a (not of Brünnich) DWIGHT, Auk, iv, 1887, 14 (Cape Breton Island, Nova Scotia, breeding; see Dwight, Auk, vi, 1889, 186).

• STERNA PARADISÆA Brünnich.

ARCTIC TERN.

Adults in summer (sexes alike).—Pileum and nape, including upper two-thirds of lores, uniform deep black; rest of upper parts mostly plain light gray (between light and pale neutral gray), the tips of secondaries and tertials, upper tail-coverts, and greater part of tail (including whole of inner webs) white; elongated lateral rectrix with outer web deep gray, growing darker terminally, in strong and abrupt contrast with pure white of inner web, the outer web of next rectrix pale gray; outermost primary with outer web dark gray or slate color; inner webs of all the primaries mostly white, with a stripe of silvery gray next to shaft, this gray stripe growing gradually wider toward inner primaries, on which it extends across tip of inner web and runs anteriorly near edge for a greater or less distance, the three or four innermost primaries, however, with inner webs light silvery gray edged with white; under tail-coverts, axillars, and under wing-coverts immaculate pure white; rest of under parts plain light gray (pale neutral gray, slightly paler than color of upper parts), fading into still paler gray on throat and chin, and into white on sides of head, next to black of pileum and lores; bill carmine or nopal red, usually tipped with blackish; iris dark brown; legs and feet intense red.

Adults in winter.—Similar to summer adults, but forehead, crown, and anterior portion of lores white, the crown streaked with black, only the occiput, nape, and posterior portion of lores uniform black; under parts white, sometimes slightly tinged with gray.

Young.—Orbital region, occiput, and posterior portion of crown dull black; forehead and anterior portion of lores and crown white, the crown intermixed with blackish and stained with brownish; back, scapulars, and wings pale gray, the feathers, tipped with pale buff and marked with a subterminal lunule of dusky brown, these markings most distinct on tertials and longer scapulars, more faint on back; primaries and secondaries much as in adults; lower rump, upper tail-coverts, and entire under parts white, the lateral portions of chest and breast stained with pale dull brownish; outer webs of rectrices deep gray or slate color, paler on middle pair, all the rectrices

^a Mentioned, in text, under name Arctic Tern.

with a rather indistinct subterminal lunule of dusky; bill dusky or blackish for terminal half, orange-reddish basally; legs and feet pale reddish (flesh color in life?).

Downy young.—Upper parts very pale buffy grayish or grayish buffy to wood brown or bright avellaneous, irregularly spotted or marbled with blackish, except on forehead; forehead, suborbital and malar regions, and throat grayish to sooty blackish; chest white or brownish white, passing into very pale buffy grayish to light buffy brown or drab on posterior and lateral under parts.

Adult male.—Wing, 257–290 (272.5); tail, 148–202.5 (176.8); exposed culmen, 29.5–42 (33.2); tarsus, 13.5–16 (14.9); middle toe, 15–17 (16.1).^a

Adult female.—Wing, 238–277 (263.1); tail, 135–193 (165.5); exposed culmen, 28–35 (31.1); tarsus, 13.5–15.5 (14.4); middle toe, 15–17.5 (15.9).^b

Breeding from northern and western Alaska (Semechi and Amchitka islands, Aleutian chain; Shumagin Islands; coasts of Norton and Kotzebue sounds, Yukon Valley, Point Barrow, etc.), Melville Island, northern Greenland, etc., southward to southern Alaska (Yakutat Bay), northern British Columbia, Lower Slave Lake, central Keewatin, Quebec (Point de Monte), Magdalen Islands, Maine, and (formerly) coast of Massachusetts (Muskegat Island, etc.); migrating southward along or near Atlantic coast to Long Island, rarely to

^a Twenty-two specimens.

^b Sixteen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Two adult males from northern Europe	271	182.7	33	16	16.3
Three adult males from Disco Island, Greenland.....	269.3	174	33	14.7	15.9
One adult male from Cumberland Gulf.....	285	176.5	33	15	16.5
Two adult males from Newfoundland (Funk Island).....	276	193.7	34.7	15.7	16.6
One adult male from Quebec (Rupert House).....	278	194	32	15	16
One adult male from Nova Scotia.....	265	164.5	34	15	15.3
Two adult males from Massachusetts (Muskegat Island).....	262.5	157	30.5	14.2	15.7
Nine adult males from Alaska.....	273.2	173	32.7	14.8	16
One adult male from Bering Island, Kamchatka.....	279	196	42	15	16.5
FEMALES.					
One adult female from Greenland.....	277	193	32	15.5	17
One adult female from Cumberland Gulf.....	270	161	31	15.5	16
One adult female from Ungava (Fort Chimo).....	257	151	29	14	15
One adult female from Nova Scotia.....	253	173	31.5	15	16
Three adult females from Massachusetts (Muskegat Island).....	241.7	152.7	30.5	14.2	15.1
Eight adult females from Alaska.....	270.9	166.6	31.5	14.4	15.2
One adult female from eastern Siberia (Valley of Yenesei).....	260	190	.....	14.5	15.2

eastern Pennsylvania (Delaware and Lehigh Rivers), and along Pacific coast to southern California (Monterey Bay); casual in Colorado (Loveland, July 9, 1889; near Denver, spring, 1887); accidental in Hawaiian group (Hilo Beach, May 9, 1891); wintering far southward (coasts of Brazil, Chile, Peru, etc., and parts of Antarctic Ocean); in Eastern Hemisphere breeds in Arctic region (up to lat. 82°, or higher, including Spitzbergen and other Arctic islands), from Iceland to the Commander Islands, Kamchatka, migrating southward to Africa and parts of Antarctic Ocean as far as lat. 74° S.

[*Sterna*] *hirundo*, part (not of Linnæus, 1758) BRÜNNICH, Orn. Bor., 1764, 45, part (young).—LINNÆUS, Syst. Nat., ed. 12, i, 1766, 227.—RETZIUS, Fauna Suecica, 1800, 162.

Sterna hirundo MÜLLER, Zool. Danm., Prodr., 1774, 170.—PHIPPS, Voy. towards North Pole, App., 1774, 188.—FABRICIUS, Fauna Groenl., 1780, 105.—MOHR, Island Naturh., 1786, 43.—SABINE (E.), Trans. Linn. Soc., xii, 1819, 542 (Greenland).—LEACH, in ROSS' Voy. Baffin Bay, App., ii, 1819, pl. 8.—SCORESBY, Arctic Reg., i, 1820, 533 (Spitzbergen).—FABER, Prodr. Orn., 1822, 68.—BREHM, Vög. Deutschl., 1831, 781.—GAIMARD, Voy. Islande, Zool., 1851, 163.—SALVADORI, Faun. Ital., Ucc., 1871, 280.—DRESSER, Birds Eur., viii (pt. xii), 1872, 255, pl. 579.—HARTING, Handb. Brit. Birds, 1872, 76.—SHELLEY, Birds Egypt, 1872, 299.—HEUGLIN, Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1421.—ALSTON and HARVIE-BROWN, Ibis, 1873, 12 (Archangel, n. Russia).—DURNFORD, Ibis, 1874, 200 (North Frisian Islands, breeding).—IRBY, Orn. Str. Gibr., 1875, 210.—NEWTON, Arctic Man., 1875, 105.—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 451 (lower Petchora River, Russia; habits).—COLLETT, Nyt Mag. Naturv., 1877, 214 (Norway).—GIGLIOLI, Ibis, 1881, 217 (Genoa, Italy).—NEALE, Proc. Zool. Soc. Lond., 1882, 654 (Franz Josef Land).—OLPHE-GALLIARD, Contr. Faun. Orn. Eur. Occid., pt. x, 1886, 21.—HAGERUP, Birds Greenl., 1891, 47.—SCHALOW, Journ. für Orn., 1891, 262 (St. Paul Island, Pribilof group, Alaska).

[*Sterna*] *hirundo* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 354.

Stuna [typ. error] *hirundo* O'REILLY, Greenland, 1818, 143.

Sterna paradisæa BRÜNNICH, Orn. Bor., 1764, 46 (Christiansøe Island, Denmark).—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 15.—BLASIUS, Journ. für Orn., 1866, 74 (monogr.).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 458.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 299.—TURNER, Auk, ii, 1885, 158 (Semechi Island, Aleutian chain, breeding); Proc. U. S. Nat. Mus., viii, 1885, 252 (Ungava Bay, breeding); Contr. N. H. Alaska, 1886, 127 (St. Michaels, etc.; habits).—STEINER, Bull. U. S. Nat. Mus., no. 29, 1885, 85 (Bering Island, Kamchatka, a few breeding); Proc. U. S. Nat. Mus., x, 1887, 124 (Bering Island).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 71; 3d ed., 1910, p. 44.—MEWES and HOMER, Ornith., ii, 1886, 272 (Archangel, Russia).—NELSON, Rep. N. H. Coll. Alaska, 1887, 58 (habits).—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 90 (lower Kowak River, July, Aug.).—PALMÉN, Vega-Exped., Bd. v, 1887, 349.—CHAMBERLAIN, in Hagerup's Birds Greenl., 1891, 47.—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 419 (Fort Anderson, Mackenzie).—COOKE, Birds Col., 1897, 51 (Loveland, Colorado, July 9, 1889, and near Denver, Spring, 1887).—STONE, Birds E. Penn. and N. J., 1894, 46 (Delaware and Lehigh Rivers, Pennsylvania).—CHAPMAN, Bull. Am. Mus., xii, 1899, 229 (Disko Bay, etc., Greenland).—

- GRINNELL (J.), Pacific Coast Avif., no. 3, 1902, 13 (California range); no. 11, 1915, 24 (fall migrant s. to Monterey Bay).—HENSCHAW, Birds Hawaiian Islands, 1902, 123 (Hilo Beach, Hawaii, 1 spec., May 9, 1891).—PREBLE, North Am. Fauna, no. 27, 1908, 272 (breeding s. to Lower Slave Lake).—BROOK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 64 (Monterey Bay, California, in migration).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 372 (St. Lawrence Island, Bering Sea, breeding; Cape Serdze, n. e. Siberia, July; etc.).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 47 (Porto Rico, rare visitant).
- Sterna paradisaea* RIDGWAY, Man. N. Am. Birds, 1887, 43.
- Sterna macrura* NAUMANN, Isis, 1819, 1847 (coast of Schleswig-Holstein); Vög. Deutschl., x, 1840, 114, pl. 253.—GRAY, List Birds Brit. Mus., Aveses, 1844, 178, part.—SCHLEGEL, Rev. Crit., 1844, p. cxxix.—DEGLAND, Orn. Eur., ii, 1849, 344.—THOMPSON, Birds Ireland, iii, 1851, 293.—MIDDENDORFF, Reis. Sibir., Zool., 1851, 245, pl. 25, figs. 2 (downy young), 3 (egg).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 862.—NEWTON, in Baring-Gould's Iceland, 1863, 417; Ibis, 1865, 506 (Spitzbergen).—RADDE, Reis. Sibir., Vög., 1863, 388.—GURNEY, Ibis, 1868, 262 (s. Africa).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 306 (Yukon River, Alaska, habits).—FRITSCH, Vog. Eur., 1870, 459, pl. 54, fig. 1.—GILLET, Ibis, 1870, 306 (Novaya Zemlya).—HEUGLIN, Ibis, 1872, 64 (Novaya Zemlya; Waigata, n. Russia).—FINSCH, Abh. Nat. Ver. Bremen, v, 1873, 366 (Greenland).—GOULD, Birds Great Britain, v, 1873, pl. 72 and text.—COUES, Birds Northwest, 1874, 685 (monogr.); Check List, 2d ed., 1882, 123, no. 799.—TACANOWSKI, Bull. Soc. Zool. France, 1875, 261 (n. e. Siberia); Proc. Zool. Soc. Lond., 1877, 749 (Tumbes, Peru); Orn. du Pérou, iii, 1886, 441.—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 650 (monogr.); 1880, 163 (lat. 32° S., long. 57° 18' E.; crit.); ed. Yarrell's Brit. Birds, iii, 1884, 563; Man. Brit. Birds, 1889, 663; Cat. Birds Brit. Mus., xxv, 1896, 62.—FULDEN, Ibis, 1877, 402 (North Polar Basin), 408 (Smith Sound, north to lat. 81° 50'; habits); in Markham's Polar Recon., 1881, 334 (Novaya Zemlya); Trans. Norfolk and Norwich N. H. Soc., iii, 1881, 209 (Franz-Josef Land).—SHERBOHN, Ibis, 1879, 161 (Yenesai River, Siberia); 1882, 385 (Archangel, n. Russia).—KUMLEN, Bull. U. S. Nat. Mus., no. 15, 1879, 101 (Greenland, etc.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 208; Nom. N. Am. Birds, 1881, no. 687.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 241 (Point de Monte, Quebec, breeding).—BREWSTER, Proc. Bos. Soc. N. H., xxii, 1883, 403 (Magdalen Islands, etc., breeding; habits).—NELSON, Cruise of 'Corwin' in 1881 (1883), 109 (both sides Bering Sea; Point Barrow).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 180.—BUNGE, Mém. Biol. St. Petersb., xii, livr. i, 1884, 54 (Lena delta, Siberia).—SHERPE, ed. Layard's Birds South Africa, 1884, 701.—SLATER (H. H.) and CARTER, Ibis, 1886, 50 (n. Iceland; habits).—GIGLIOLI, Avif. Ital., 1886, 416; Avif. Ital., 1st Resoc., 1889, 632 (Lombardy); 2nd Resoc., 1890, 165.—HARVEY-BROWN and BUCKLEY, Fauna Sutherl., etc., 1887, 227; Fauna Outer Hebrides, 1888, 139; Fauna Argyll, etc., 1892, 185.—SALVADORI, Ucc. Ital., 1887, 276.—MCLENNAN, Cruise 'Corwin' in 1885 (1887), 79 (Noatak River, Alaska, breeding).—TCHUSI, M. T. Orn. Ver. Wien., 1888, 80 (Hungary).—RACHENOW, Syst. Verz. Vög. Deutschl., 1889, 61.—CLARKE (W. E.), Zoologist, 1890, 51 (Jan Mayen Land); Ibis, 1898, 262 (Franz-Josef Land, summer resident); 1899, 47 (Whale Point Harbor, Ryk-ys Islands, King Charles Islands, and Olga Straits, e. Spitzbergen, breeding); 1907, 345 (Weddell Sea, lat. 64° 29' to 72° S., long. 12° 49' to 35° 29' W.).—BLAGG, Ibis, 1893, 356 (Shetland Islands).—HARTERT, Katal. Vogelsamml. Senckenb., 1891, 239.—BUCKLEY and HARVEY

- BROWN, Fauna Orkneys, 1891, 227.—GÄTKE, Vögelw. Helgoland, 1891, 585.—COLLETT, Norges Fugelf., Nyt Mag. f. Naturv., Bd. xxxv, 1894, 316.—LILFORD, Colored Figs. Brit. Birds, pt. xxviii, 1894.—PEARSON and BIDWELL, Ibis, 1894, 236 (n. Norway; breeding habits).—SCHALOW, Journ. für Orn., 1895, 465 (w. Greenland); 1899, 384 (Spitzbergen); Vögel der Arktis, 1904, 150 (synonymy, range, etc.).—PEARSON, Ibis, 1896, 212 (Russian Lapland; descr. eggs), 219 (Kolguev), 223 (Novaya Zemlya); 1898, 202 (Pachtusoff Island, Novaya Zemlya, breeding).—POPHAM, Ibis, 1897, 106 (Yeneseisk, Siberia); 1898, 518 (Golchika and delta of Yenesei River, Siberia, breeding).—TREVOR-BATTE, Ibis, 1897, 591 (Spitzbergen; habits).—REICHENOW, Deutsch Tiefsee-Exp., 7-Bd. 5-lief., 1904, 350 (13° E., 57° S. and 66° E., 56° S.).
- Sterna macrura* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 246.
- [*Sterna macrura* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—SHARPE, Hand-list, i, 1899, 135.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54 (Kamchatka; Chernobuso Island, Alaska; etc.).
- Sterna macrura* COUES, Key N. Am. Birds, 2d ed., 1884, 764.
- Sterna macrura macrura* HANTZSCH, Journ. für Orn., July, 1908, 328 (Labrador).
- Sterna macroura* BREHM, Vög. Deutschl., 1831, 784.—KJÆRØLLING, Danm. Fugle, 1852, 330, pl. 40B; Suppl., 1854, pl. 20, figs. 4, 5.—HEUGLIN, Syst. Ueb., 1856, 70 (Egypt, in winter) Journ. für Orn., 1871, 103 (n. Europe); 1872, 124 (European Arctic); in Petermann's; Mittheil., 1869, 408.—REINHARDT, Journ. für Orn., 1854, 443 (Greenland); Ibis, 1861, 19 (Greenland).—BAIRD, Cat. N. Am. Birds, 1859, no. 690.—EVANS and STURGE, Ibis, 1859, 167 (w. Spitzbergen).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 131 (Maine; breeding).—VERBILL, Proc. Bost. Soc. N. H., ix, 1862, 141 (Gulf of St. Lawrence); Proc. Essex Inst., iii, 1862, 161 (Maine, breeding).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 549 (monogr.); Check List, 1873, no. 567.—GRAY, Cat. Brit. Birds, 1863, 240.—MALMGREN, Oefv. K. Vet.-Akad. Förh. Stockholm, 1863, 101; 1864, 385 (Spitzbergen).—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 202.—DROSTE, Journ. für Orn., 1869, 388 (Farøe Islands); Vogelw. Borkums, 1869, 326.—HOMER, Journ. für Orn., 1870, 438 (e. Siberia).—MAYNARD, Nat. Guide, 1870, 152. (Massachusetts, breeding).—SUNDEVALL, Oefv. k. Vet.-Akad. Förh. Stockholm, 1874, 21 (Spitzbergen).—LANGDON, Birds Cincinnati, 1877, 18.—FINSCH, Reis. West. Sibir., 1879, 279.—WALTER, Journ. für Orn., 1890, 238, 240, 241, 244, 246, 247, 249, 250 (e. Spitzbergen; food).
- Sterna macroura* GRAY, Gen. Birds, iii, 1846, 659.
- [*Sterna macroura* WHEATON, Ohio Agric. Rep., 1860, no. 274 (Ohio).—COUES, Key. N. Am. Birds, 1872, 321.
- Hydrocecropis macroura* BOIE, Isis, 1844, 179.
- Sterna arctica* TEMMINCK, Man. d'Orn., ii, 1820, 742 (Orcaades, coast d'Ecosse, England, and the Baltic); ed. 2, 4me pte, 1840, 458.—SABINE (E.). Suppl. Parry's 1st Voy., 1821, p. ccii.—BOIE, Isis, 1822, 563, 879.—MEYER, Taschenb., iii, 1822, 187.—SABINE (J.), App. Franklin's Journ., 1823, 694.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1825, 152.—RICHARDSON, App. Parry's 2d Voy., 1825, 356.—ROSS (J. C.), App. Parry's 3rd Voy., 1826, 103; App. Parry's 4th Voy., 1828, 194 (Spitzbergen, breeding).—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 354 (crit.); Geog. and Comp. List, 1838, 61.—WERNER, Atlas, Palmipèdes, 1828, pl. 7.—KAUP, Natürl. Syst., 1829, 26.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 414.—BREHM, Vög. Deutschl., 1831, 785.—LESSON, Traité d'Orn., 1831, 621.—SAVI, Orn. Tosc., iii, 1831, 86.—SELBY, Brit. Birds, ii, 1833, 473, pl. 90, fig. 2.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 275.—JENYNS, Man. Brit. Vertebr., 1835, 267.—AUDUBON

- Orn. Biog., iii, 1835, 366, pl. 250; Synopsis, 1839, 319; Birds, Am., 8vo. ed., vii, 1844, 107, pl. 436.—GOULD, Birds Europe, v, 1837, pl. 419 and text.—SCHINZ, Vög. Eur., 1840, 373.—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 232; Brit. Birds, v, 1852, 643.—SELYS-LONGCHAMPS, Faun. Belg., 1842, 150.—YARRELL, Brit. Birds, iii, 1843, 399; 2d ed., iii, 1845, 507.—HEWITSON, Eggs Brit. Birds, ii, 1846, 428, pl. 120, fig. 2.—REICHENBACH, Natatores, 1848, pl. 20, figs. 274–280.—WOLLEY, in Jardine's Contr. Orn., 1850, 113 (Faröes).—MEYER, Brit. Birds, vii, 1857, 90, pl. 293.—SUNDEVALL, Svensk Fogl., 1863, pl. 48, figs. 2, 3.—GRAY (R.) Birds West Scotl., 1871, 468.—TURNBULL, Birds E. Penn. and N. J., 1869, 139 (fall and winter).—PALMÉN, Finlands Foglar, 1873, 573; Cat. Swed. Lond. Fish. Exhib., 1883, 202.—ADAMS, Ibis, 1878, 440 (St. Michaels, Alaska; habits).—FEILDEN, Zoologist, 1879, 7 (Prince Albert Land).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 284.
- S[terna] arctica* MAXIMILIAN, Journ. für Orn., 1859, 258.—PUTNAM, Proc. Essex Inst., i, 1856, 221 (Beverly Harbor, Mass.).
- Sterna argentata* BREHM, Beitr. Vogelk., iii, 1822, 692; Lehrb. Eur. Vög., 1824, 689; Vög. Deutschl., 1831, 782; Naumannia, 1855, 295; Vogelf., 1855, 348.—HOMEYER, Ornith., 1885, 81.—LÜTKEN, Ornith., 1885, 141; 1886, 99.—WINGE (O.), Ornith., 1885, 592 (Denmark, breeding).—GRONDAL, Ornith., 1885, 371 (Iceland).
- Sterna brachytarsa* GRABA, Reise n. Färö, 1830, 219.—BREHM, Vög. Deutschl., 1831, 787.
- Sterna argentacea* BREHM, Vög. Deutschl., 1831, 786.
- Sterna oceani* BREHM, Vog. Deutschl., 1831, 786.
- Sterna brachypus* SWAINSON, Birds West Africa, ii, 1837, 252.—HARTLAUB, Orn. W.-Afrika, 1857, 255.—LAYARD, Birds South Africa, 1867, 371.—GURNET, Ibis, 1868, 262 (s. Africa).—SPERLING, Ibis, 1868, 284 (Europa Island, Mozambique Channel).
- S[terna] brachypus* GRAY, Gen. Birds, iii, 1846, 659.
- [Sterna] brachypus* GRAY, Hand-list, iii, 1871, 118, no. 11022.
- Hydrocrocopus brachypus* BOIE, Isis, 1844, 179.
- Sterna senegalensis* SCHLEGEL, Mus. Pays-Bas., vi, Sternæ, 1863, 16, part.
- Sterna coccineirostris* REICHENBACH, Natatores, Novit., 1850, p. viii, pl. 271, fig. 2262 ("Mexico").
- [Sterna] coccineirostris* GRAY, Hand-list, iii, 1871, 118, no. 11029.
- Sterna pikei* LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vi, 1853, 3 (vicinity of Monterey, California); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 863; ed. 1860 (Birds N. Am.), pl. 95.—BAIRD, Cat. N. Am. Birds, 1859, no. 693.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 550 (monogr.).
- [Sterna] pikei* GRAY, Hand-list, iii, 1871, 118, no. 11031.
- [Sterna] pykii* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- [Sterna] longipennis* (not of Nordmann, 1835) COUES, Key N. Am. Birds, 1872, 321 (erroneous identification of *S. pikei* Lawrence).
- Sterna longipennis* COUES, Check List, 1873, no. 568.—STEJNEGER, Proc. U. S. Nat. Mus., vi, 1883, 70.
- Sterna portlandica* RIDGWAY, Am. Nat., viii, no. 7, July, 1874, 423, in text (Portland Harbor, Maine; coll. U. S. Nat. Mus.) ix, 1875, 54, 55 (crit.).—COUES, Birds Northwest, 1874, 691 (monogr.).—BREWSTER, Ann. Lyc. N. Y., xi, 1876, 201 (crit.).
- (?) *Sterna atrofasciata* PHILIPPI and LANDBECK, Wiegmann's Archiv für Naturg., 1863, Bd. i, 204 (Colchagua, Chile;=young?).
- (?) *[Sterna] atrofasciata* GRAY, Hand-list, iii, 1871, no. 11035.
- (?) *[Pelodes] albirostris* (not *Hydrochelidon albirostris* Gray, 1844^a) HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 356 ("St. Johns Id., West Indies").

^a Or else the locality probably wrong.

STERNA DOUGALLI Montagu.

ROSEATE TERN.

Adults in summer (sexes alike).—Pileum, nape, and upper half of lores uniform deep black; rest of upper parts plain pale gray (pallid neutral gray) passing into silvery white on upper tail-coverts and tail; secondaries tipped with white, and inner webs of primaries broadly edged with the same; outermost primary with outer web dark gray or blackish slate, the inner webs of three outer primaries white with a stripe of silvery gray next to shaft, the white extending to the extreme tip; lateral and lower portions of head and neck, lower hindneck, and entire under parts, including axillars and under wing-coverts, immaculate white, usually more or less deeply tinted with pink, especially on under parts of body; bill black, usually more or less reddish at extreme base (mostly red in pre-nuptial season); iris dark brown; legs and feet pure vermilion red or scarlet (in life).

Adults in winter.—Similar to the summer plumage, but forehead and anterior portion of crown white, the latter shaded with grayish and indistinctly streaked with darker, only the orbital region, occiput, and nape uniform black.

Young.—Pileum and nape pale buffy grayish, finely mottled or stippled with darker, and streaked, especially on crown, with dusky; orbital region and upper portion of auricular region dusky or blackish; remainder of head, lower hindneck, and entire under parts white, the hindneck, and sometimes sides of breast, finely mottled with buffy grayish; back, scapulars, wing-coverts, rump, upper tail-coverts, and tail pale gray, the back and scapulars overlaid or washed with pale buff, irregularly mottled with dusky, each feather with a subterminal V-shaped mark of dusky; primary coverts and primaries darker gray, edged with paler, the inner webs of the latter broadly edged with white; rectrices each with a subterminal V-shaped mark of dusky and with outer web rather darker grayish; bill brownish dusky; legs and feet dusky (in dried skins).

Downy young.—Upper parts pale grayish buffy or buffy grayish, thickly flecked or irregularly streaked with dusky; anterior portion of forehead uniform dusky; throat and lateral portions of head and neck dull grayish; rest of under parts immaculate dull white; bill brownish, tipped with blackish; legs and feet dusky.

Adult male.—Wing, 222–231.5 (230); tail, 166–214.5 (187.6); exposed culmen, 36–40.5 (38.1); tarsus, 18–20 (19); middle toe, 17–18.5 (17.9).^a

Adult female.—Wing, 218.5–233 (230); tail, 138–215 (187.6); exposed culmen, 36–40 (38.1); tarsus, 18.5–20 (17.9).^a

Atlantic coast of United States, West Indies, and greater part of Eastern Hemisphere; breeding, locally, from Sable Island, near Nova Scotia, to Long Island (formerly from Maine to Florida), on outer Bahama cays, islets about Guadeloupe, and in Grenada, formerly in Bermudas; migrating southward through West Indies (where doubtless breeding on many islands) to coast of British Honduras (Grassy Cay; Belize), Pacific coast of Oaxaca (Ventosa Bay), Trinidad, and coast of Venezuela and Brazil; accidental in Ohio and northwestern Indiana (Lake Michigan, near Miller's, Aug. 14, 1916); in Eastern Hemisphere breeding in Europe from about lat. 57° N. to Mediterranean Sea, Azores, and Madeira; also in Andaman Islands, New Caledonia, etc., and occurring, at least during migrations, along eastern coast of Asia from Liu Kiu Islands to Malay Archipelago, Moluccas, New Caledonia (breeding), Australia, etc.

(?) *Larus polo-condor* SPARRMAN, Mus. Carls., fasc. iv, 1789, no. 83 (Polo-Condor Island, French Indo-China).^b

(?) *Larus pulo-condor* LATHAM, Index Orn. Suppl., 1801, p. lxxviii.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 497, 500.

(?) *Rissa polo-condor* REICHENBACH, Natatores, Novit., 1850, p. xi, pl. 274, fig. 2278.

Sterna dougalli MONTAGU, Suppl. Orn. Dict., 1813, text and plate (no pagination; The Cumbraes, Firth of Clyde, Scotland; type now in coll. Liverpool Mus.; see Forbes and Robinson, Bull. Liverp. Mus., ii, no. 2, 1899, 54).—LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 41.—CUVIER, Règne Anim., Ois., 1817, 344, Atlas, pl. 93.—TEMMINCK, Man. d'Orn., ed. 2, 1820, 738; ed. 1840, 4^{me} pte. 457.—BORE, Isis, 1822, 563.—MEYER, Taschenb., iii,

^a Ten specimens (American).

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Nine adult males from Atlantic coast of United States (Massachusetts to New York).....	230.9	187.2	38.3	19	17.9
One adult male to Dominica.....	222	192	36	19	15.5
One adult male from Liu Kiu Islands (<i>S. d. bangsi</i>).....	220	161.5	35	20	18
One adult male from Cullian Island, Philippines (<i>S. d. bangsi</i>)..	220.5	161.2	35.5	19.2	17.3
FEMALES.					
Nine adult females from Atlantic coast of United States (Massachusetts to New York).....	227	181	37.6	19.2	17.9
One adult female from Dominica.....	218.5	180	37	19.5	17.5
One adult female from Liu Kiu Islands (<i>S. d. bangsi</i>).....	215	164	36	19	17
Three adult females from Cullian Island, Philippines (<i>S. d. bangsi</i>)	216.5	155.3	36	19.2	17.7

^b See Sundevall, Kritisk Sparrm., 1859, 13.

1822, 187.—BREHM, *Lehrb.*, 1824, 686; *Vög. Deutschl.*, 1831, 779.—STREPHENS, *Shaw's Gen. Zool.*, xiii, pt. 1, 1826, 153.—WERNER, *Atlas, Palmipèdes*, 1828, pl. 5.—FLEMING, *Brit. Anim.*, 1828, 143.—LESSON, *Traité d'Orn.*, 1831, 621 (Bengal).—SAVI, *Orn. Tosc.*, iii, 1831, 93.—SELBY, *Brit. Birds*, ii, 1833, 470, pl. 89, figs. 1, 2.—NUTTALL, *Man. Orn. U. S. and Can.*, *Water Birds*, 1834, 278.—JENYNS, *Man. Brit. Vertebr.*, 1835, 285.—GOULD, *Birds Europe*, v, 1837, pl. 418 and text.—SCHINZ, *Eur. Faun.*, 1840, 372.—EYTON, *Cat. Brit. Birds*, 1836, 55.—NAUMANN, *Vög. Deutschl.*, x, 1840, 78, pl. 251.—SELYS-LONGCHAMPS, *Faune Belge*, 1842, 150.—GIRAUD, *Birds Long Island*, 1844, 351.—CABOT, *Proc. Bost. Soc. N. H.*, ii, 1844, 248 (*Massachusetts*).—HEWITSON, *Eggs Brit. Birds*, ii, 1846, 425, pl. 119.—REICHENBACH, *Nataiores*, 1848, pl. 22, figs. 824, 825.—HURDIS, *Jardine's Contr. Orn.*, 1850, 6 (*Bermudas, breeding*).—KJÆRBØLLING, *Danm. Fugle*, 1852, 328, pl. 40A; *Suppl.*, 1854, pl. 20, fig. 2.—PUTNAM, *Proc. Essex Inst.*, i, 1856, 221.—MEYER, *Brit. Birds*, vii, 1857, 87, pl. 292.—JONES, *Nat. in Bermuda*, 1859, 91.—MARTENS, *Journ. für Orn.*, 1859, 222 (*Bermudas*).—GODMAN, *Ibis*, 1866, 103 (*Azores*); *Azores*, 1870, 38.—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 459.—TURNBULL, *Birds E. Penn. and N. J.*, 1869, 38.—SUNDEVALL, *Oefv. K. Vet.-Akad. Förh. Stockholm*, 1869, 589 (*St. Bartholomew*).—SCLATER and SALVIN, *Proc. Zool. Soc. Lond.*, 1871, 571 (*monogr.*).—GRAY (R.), *Birds West Scotland*, 1871, 466.—COUES, *Birds Northwest*, 1874, 688 (*monogr.*); *Check List*, 2d ed., 1882, no. 800.—HUME, *Stray Feathers*, iv, 1876, 294 (*Andaman Islands*).—SAUNDERS, *Proc. Zool. Soc. Lond.*, 1876, 652 (*monogr.*); ed. *Yarrell's Brit. Birds*, iii, 1884, 544; *Man. Brit. Birds*, 1889, 629; *Ibis*, 1891, 187 (*Lake Léman, Switzerland*); 1896, 246 (*geog. range*); *Cat. Birds Brit. Mus.*, xxv, 1896, 70 (*Antigua, June; Guadeloupe, Sept.; St. Vincent, Aug.; etc.*).—DRESSER, *Birds Europe*, viii, 1876, 273, pl. 581.—LAWRENCE, *Bull. U. S. Nat. Mus.*, no. 4, 1876, 51 (*Ventosa Bay, Oaxaca*); *Proc. U. S. Nat. Mus.*, i, 1878, 238 (*Antigua, Lesser Antilles*); i, 1879, 277 (*Grenada, breeding*), 360 (*Martinique*), 488 (*Dominica*), 462 (*Guadeloupe*).—SHARPE, *Philos. Trans.*, vol. 168, 1878, 464 (*Rodriguez*); ed. *Layard's Birds South Africa*, 1884, 702; *Rep. Voy. 'Alert'*, 1884, 281 (*Torres Strait*).—RAMSAY, *Proc. Linn. Soc. N. S. W.*, ii, 1878, 201.—HUME and DAVISON, *Stray Feath.*, vi, 1878, 492 (*Tenasserim*).—RATHBUN, *Birds Centr. N. Y.*, 1879, 41 (*Penn Yan, 1 spec.*).—PARKER, *Stray Feath.*, ix, 1880, 489 (*Ceylon, breeding*).—LEGGE, *Birds Ceylon*, 1880, 1033.—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880, 208; *Nom. N. Am. Birds*, 1881, no. 688.—GIGLIOLI, *Ibis*, 1881, 218 (*Massaciucoli, Italy*); *Avif. Ital.*, 1886, 414.—MILNE-EDWARDS and GRANDIDIER, *Nat. Hist. Madag.*, Ois., 1882, 657.—SALVADORI, *Orn. Papuasia*, etc., iii, 1882, 407; *Ucc. Ital.*, 1887, 277.—BRITISH ORNITHOLOGISTS' UNION, *List Brit. Birds*, 1883, 181.—OATES, *Birds Burma*, ii, 1883, 425.—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 303.—REID, *Bull. U. S. Nat. Mus.*, no. 25, 1884, 269 (*Bermudas, formerly breeding*).—SEEBORN, *Hist. Brit. Birds*, iii, 1885, 277; *Ibis*, 1887, 181 (*Liu Kiu Islands, Japan*).—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, and 2d ed., 1895, no. 72; 3d ed., 1910, p. 45.—WELLS, *Proc. U. S. Nat. Mus.*, ix, 1887, 632 (*Grenada, breeding*); *List Birds Grenada*, 1886, 11.—OATES, ed. *Hume's Nests and Eggs Ind. Birds*, iii, 1887, 301.—NEWTON (E.), *Trans. Norfolk Soc.*, iv, 1888 553 (*Mascarene Islands*).—CORY, *Auk*, v, 1888, 78 (*West Indian localities and references*); viii, 1891, 46 (*Antigua; crit.*), 48 (*Guadeloupe; crit.*), 351 (*Inagua, Bahamas*); *Birds West Ind.*, 1889, 279; *Cat. West Ind. Birds*, 1892, 82 (*New Providence and Great Inagua islands, Bahamas; Cuba; Jamaica; Porto Rico; St. Bartholomew; Antigua; Guadeloupe; Dominica; Martinique; Grenada*).—SCOTT, *Auk*, v, 1888, 375 (*Johns Pass, Florida, 1 spec., Sept. 24, 1886*).—REICHENOW, *Syst. Verz.*

- Vög. Deutschl., 1839, 61.—MORE, List Irish Birds, ed. 1890, 27.—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 300.—SHICK, Auk, vii, 1890, 327 (Seven Mile Beach, New Jersey, breeding).—GRANT, Ibis, 1890, 422 (Madeira).—STERNNEGER, Proc. U. S. Nat. Mus., xiv, 1891, 489 (Liu Kiu Islands).—GÄTKE, Vogelw. Helgoland, 1891, 554.—HARTERT, Ibis, 1893, 310 (Aruba; habits; crit.); Novit. Zool., viii, 1901, 98 (Ree Island; crit.); ix, 1902, 308 (Aruba; habits; crit.); x, 1903, 17 (Obi Major).—LILFORD, Col. Fig. Brit. Birds, pt. xxviii, 1894.—HOWE, Auk, xiv, 1897, 204 (Weepeckett Island, Buzzard Bay, Massachusetts, breeding).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 404 (Ventosa Bay, Oaxaca; Belize and Grassy Cay, Brit. Honduras; Venezuela; West Indies).—ALLEN (G. M.), Auk, xxii, 1905, 117 (outer Bahama cays, breeding).—JONES, Wilson Bull., n. s., xiii, 1906, 43-47 (life history).—PROCTOR, Bull. Brit. Orn. Club, xxxiii, 1913, 85, in text (Kiunga Island, e. coast Africa, breeding; descr. eggs).—NORTON, Auk, xxx, 1913, 574 (Bluff Island, Saco Bay, Maine; Aug. 19, 1912; Green Islands, Casco Bay, July 20; and other Maine records).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 47 (Porto Rico, June, July, Aug.; crit.).—STODDARD, Auk, xxxiv, 1917, 86 (Lake Michigan, near Miller's, Indiana, Aug. 14, 1916).
- S[terna] dougalli* COUES, Key N. Am. Birds, 2d ed., 1884, 766.—RIDGWAY, Man. N. Am. Birds, 1887, 44.
- [*Sterna*] *dougallii* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—CORY, List Birds West Ind., revised ed., 1886, 33.—SHARPE, Hand-list, i, 1899, 135.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 54 (Jamaica; Bermuda; etc.).
- S[terna] dougalli dougalli* CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 258 (Guadeloupe; crit.).
- Sterna dougalli dougalli* NOBLE, Bull. Mus. Comp. Zool., lx, 1916, 368 (Guadeloupe, common and breeding on outlying islands).
- Sterna dougalli* VIELLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 174; Faune Franç., 1828, 399, pl. 161, fig. 1; Gal. Ois., ii, 1834, 225, pl. 290.—AUDUBON, Orn. Biog., iii, 1835, 296, pl. 240; Synopsis, 1839, 320; Birds Am., 8vo. ed., vii, 1844, 112, pl. 437.—BONAPARTE, Geog. and Comp. List, 1838, 61.—YARBELL, Brit. Birds, ii, 1843, 393.—JARDINE, Contr. Orn., 1849, 80 (Bermudas, summer resident).—BLAND, An. Rep. Smithsonian Inst. for 1858 (1859), 288 (Bermudas).—HARTING, Handb. Brit. Birds, 1872, 76.
- Thalassaea dougalli* KAUP, Natürl. Syst., 1829, 97, 196.
- Hydrocecropis dougalli* BOIE, Isis, 1844, 179.
- Sterna douglasii* SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 24.—SCHLEGEL and POLLEN, Fauna Madag., ii, 1868, 147.—HARTLAUB, Vög. Madag., 1877, 385.
- Sterna douglasii* BLASIUS, Journ. für Orn., 1866, 80.—SALVADORI, Faun. Ital., Ucc., 1871, 281.
- Sterna macdougalli* MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 233; Brit. Birds, v, 1852, 648.
- St[erna] paradisea* (not *S. paradisea* Brünnich) KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 247.
- Sterna paradisea* BONAPARTE, Cat. Ucc. Eur., 1842, 76.—MÜHLE, Orn. Griechenl., 1844, 146.—GRAY, List Birds Brit. Mus., Anseres, 1844, 178; Cat. Brit. Birds, 1863, 239.—SCHLEGEL, Rev. Crit., 1844, p. cxxx.—DEGLAND, Orn. Eur., ii, 1849, 346.—THOMPSON, Birds Ireland, iii, 1851, 271.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 863.—BAIRD, Cat. N. Am. Birds, 1859, no. 692.—LINDERMAYER, Vög. Griechenl., 1860, 179.—WHEATON, Ohio Agric. Rep., 1860, no. 275 (Ohio).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 551 (monogr.); Ibis, 1864, 389 (Grassy Cay, Brit. Honduras); Proc. Essex Inst., 1868, 60 (Massachusetts, breeding); Proc. Bost. Soc. N.

- H., xii, 1868, 126 (South Carolina).—SALVIN, Ibis, 1866, 199 (Honduras).—LEOTAUD, Ois. Trinidad, 1866, 539.—ALLEN, Proc. Essex Inst., iv, 1864, 90 (Massachusetts); Am. Nat., iii, 1870, 643 (Massachusetts, breeding).—MAYNARD, Nat. Guide, 1870, 186 (Massachusetts, common, breeding).—FRITSCH, Vög. Eur., 1870, 457, pl. 57, fig. 1.—GOULD, Birds Great Brit., v, 1873, pl. 71 and text.—WALDEN, Ibis, 1874, 149 (Port Blair, Andaman Islands; crit.).—HUME, Stray Feath., iii, 1875, 501 (Andaman Islands).—GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 392; Journ. für Orn., 1875, 391 (Cuba); 1878, 163, 191 (Porto Rico); Orn. Cubana, 1876, 310; Anal. Soc. Esp. Hist. Nat., vii, 1878, 411 (Porto Rico).—CORY, Birds Bahama Is., 1880, 212; ed. 1890, 212.—OLPHE-GALLIARD, Contr. Faun. Eur. Occid., livr. x, 1886, 19.—STAHL, Ornith., vol. 3, 1887, 453 (Porto Rico).
- [*Sterna paradisaea* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—GRAY, Hand-list, iii, 1871, 119, no. 11038.—COUES, Key N. Am. Birds, 1872, 321.
- [*Sterna paradisaea* GRAY, Gen. Birds, iii, 1846, 659.
- [*Sterna paradisaea* (not of Brännich) COUES, Key N. Am. Birds, 1872, 321.
- Sterna paradisaea* COUES, Check List, 1873, no. 569.
- Sterna gracilis* GOULD, Proc. Zool. Soc. Lond., 1845 (pub. Oct.), 76 (Houtman's Abrolhos, off w. coast Australia; coll. J. Gould?); 1847, 222 (Houtman's Abrolhos); Birds Australia, vii, 1848, pl. 27 and text; Handb. Birds Australia, ii, 1865, 399.—REICHENBACH, Vög. Neuholl., 1850, 346.—GRAY, Proc. Zool. Soc. Lond., 1859, 166 (New Caledonia); Cat. Mam. and Birds New Guinea, 1859, 63; Cat. Birds Trop. Is. Pacific Ocean, 1859, 58.—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 19.—FINSCH and HARTLAUB, Faun. Centralpolnes., 1867, 215.—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 481 (Ceylon).—HUME, Stray Feath., ii, 1874, 317 (Andaman Islands).—LEGGE, Stray Feath., iii, 1875, 376 (Ceylon).—LAYARD (E. L. and E. L. C.), Ibis, 1878, 265 (New Caledonia); 1880, 233 (Loyalty Islands, e. of New Caledonia); 1882, 540 (New Caledonia; habits; descr. eggs).—RAMSAY, Proc. Linn. Soc. N. S. W., iv, 1880, 84; vii, 1883, 41 (Solomon Islands).—TRISTRAM, Ibis, 1882, 144 (Solomon Islands).—MATHEWS, Birds Australia, ii, 1912, pl. [108] facing p. 358.
- [*Sterna gracilis* SHARPE, Hand-list, i, 1899, 135 (Australia only).
- Sterna dougalli gracilis* CORY, Cat. West Ind. Birds, 1892, 82 (Antigua and Redonda, Lesser Antilles), 135 (crit.).—BANGS, Bull. Mus. Comp. Zool., xxxvi, 1901, 256 (Liu Kiu Islands; crit.); Proc. New Engl. Zool. Club, iii, 1903, 94 (Liu Kiu Islands).—ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 594 (Ysabel Islands, Solomon group; crit.; descr. eggs).—HARTERT, Novit. Zool., xii, 1905, 199 (Bedout Island, n. w. Australia).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 257 (St. Vincent, Grenada, and Grenadines, Lesser Antilles; crit.; habits; descr. nest and eggs).
- Sterna dougalli gracilis* MATHEWS, Birds Australia, ii, pt. 4, 1912, 358, 365.
- Sterna dougalli bangsi* MATHEWS, Birds Australia, ii, pt. 4, Nov. 1, 1912, 364 (Foo Chow, China; Liu Kiu Islands).
- Sterna dougalli korustes* MATHEWS, Birds Australia, ii, pt. 4, Nov. 1, 1912, 364 (Andaman Islands, breeding).
- Sterna dougalli arideensis* MATHEWS, Birds Australia, ii, pt. 4, Nov. 1, 1912, 364 (Seychelles, breeding).
- Sterna bicuspis* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98 (Bahia, Brazil; coll. Berlin Mus.).
- Sterna tenuirostris* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98 (East Indies; coll. Berlin Mus.).^a

^aAccording to Saunders, Cat. Birds Brit. Mus., xxv, 1896, 72, but this name does not occur in the copy of Lichtenstein's Nomenclator in the Library of the U. S. National Museum. A *nomen nudum*.

Sterna melanorhyncha (not of Gould, 1848) NEWTON (E.), *Ibis*, 1863, 460 (Tamatave, Madagascar).—MASTERS, Proc. Linn. Soc. N. S. W., 1876, 62.—RANSAY, Proc. Zool. Soc. Lond., 1877, 347 (Queensland, Australia).

Sternula korustes HUMPHREY, *Stray Feath.*, 1874, 318 (Andaman Islands).

(?) *Sterna nigrifrons* MASTERS, Proc. Linn. Soc. N. S. W., 1876, 62 (Warrior Reef, Australia).

STERNA ALEUTICA Baird.

ALEUTIAN TERN.

Adults in summer (sexes alike).—Forehead white, extending laterally to or somewhat beyond posterior angle of eye; rest of pileum, together with nape, upper portion of auricular region, and a broad stripe on lores, extending from bill to eye, uniform deep black; rest of upper parts mostly plain gray (nearly light neutral gray), the tips (sometimes edges also) of secondaries, lower rump, upper tail-coverts, and tail immaculate pure white; primaries slightly darker gray, their shafts white, their inner webs mostly white but with a broad stripe of deep gray nearest to shaft and a narrow edging or sub-edging of the same; suborbital and malar regions, lower portion of auricular region, axillars, under wing-coverts, and under tail-coverts immaculate pure white; rest of under parts, together with neck, all round, light gray (pale mouse gray), fading gradually into the white of chin and under tail-coverts; bill, legs, and feet black; iris dark brown.

Adults in winter.—Similar to summer adults, but, according to Saunders,^a "with rather more white on the forehead."

Young.—Pileum, lores, and hindneck smoky grayish brown, darkening on occiput into dusky or dull sooty blackish, this dark color extending laterally nearly or quite to eye, the smoky brown color of hindneck extending over sides of neck to sides of chest, sometimes even tinging median portion of the latter and the foreneck; back, scapulars, proximal wing-coverts, and tertials dull slate-blackish or dusky brownish gray, the feathers broadly and sharply margined, especially at tips, with deep yellowish ochraceous; rest of wing gray, the greater coverts and secondaries tipped with white, the primaries essentially as in adults; upper part of rump dusky brownish gray, the feathers narrowly tipped with pale fulvous, this preceded by a subterminal bar of dusky; lower rump and upper tail-coverts gray, the lateral coverts paler (sometimes nearly white), the longer ones tipped with buff; tail pale gray, the rectrices becoming dusky subterminally and tipped with deep buff or ochraceous, their inner webs paler (nearly white), the outer web of lateral pair pure white; under parts white, clouded or stained on sides of chest (sometimes also on middle of chest, foreneck, throat, etc.), with smoke brown; maxilla

^a Cat. Birds Brit. Mus., xxv. 1896, 99.

dusky, the mandible light reddish (brownish in dried skins) with terminal third or fourth dusky; legs and feet light reddish.^a

Downy young.—Upper parts rather light sooty brown, varying to buffy brown, coarsely mottled or marbled with blackish, the markings smaller and more sharply defined on head, where the anterior portion of crown and the superciliary region are sometimes immaculate; forehead, chin, throat, and sides of neck dark sooty grayish, the remaining under parts lighter sooty grayish.

Adult male.—Wing, 261–280 (271.4); tail, 121–194 (166.4); exposed culmen, 30–34 (32.7); tarsus, 16.5–18 (17.1); middle toe, 20–22 (21.1).^b

Adult female.—Wing, 252–275 (263.2); tail, 103.5–162 (138.2); exposed culmen, 30–35 (33.2); tarsus, 17–18.5 (17.9); middle toe, 20.5–22 (21).^c

Western Alaska, from shores of Norton Sound to Kodiak Island; St. Lawrence Bay, northeastern Siberia; in winter south to northern Japan (Inaboya, off Yedo; Saghalin Island).

Sterna aleutica BAIRD, Trans. Chicago Acad. Sci., i, 1869, 321, pl. 31, fig. 1 (Kodiak Island, Alaska; coll. U. S. Nat. Mus.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 307 (Kodiak).—COUES, Check List, 1873, no. 572; 2d ed., 1882, no. 803; Birds Northwest, 1874, 696 (monogr.).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 664 (monogr.); Journ. Linn. Soc., xiv, 1878, 403, 405 (range); Cat. Birds Brit. Mus., xxv, 1896, 98 (St. Michaels, Alaska; Inuboe, off Yedo, Japan).—RIDGWAY, Bull. Nutt. Orn. Club, iii, 1878, 38 (St. Michaels); Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 208; Nom. N. Am. Birds, 1881, no. 689.—NELSON, Cruise 'Corwin' in 1881 (1883), 109 (Kodiak Island to Bering Straits; St. Lawrence Bay, Siberia); Rep. Nat. Hist. Coll. Alaska, 1887, 59 (Kodiak; St. Michaels and shores of Norton Sound; St. Lawrence Bay, e. Siberia; habits, etc.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 307.—TURNER, Contr. Nat. Hist. Alaska, 1886, 127 (St. Michaels; habits, etc.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 73; 3rd ed., 1910, p. 45.—SIEBOHM, Birds Japan. Emp., 1890, 299 (Inuboe, Japan).—ALLEN, Auk, x, 1893, 123 (Alaska).—THAYER and BANGS, Auk, xxxiii, 1916, 44 (Saghalin Island, Japan, June).—HERSEY, Smithsonian. Misc. Coll., lxvi, no. 2, 1916, 15 (off Cape Nome, and land localities not specified).

[*Sterna*] *aleutica* GRAY, Hand-list, iii, 1871, 118, no. 11037.—COUES, Key N. Am. Birds, 1872, 322.—SHARPE, Hand-list, i, 1899, 136.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 55 (St. Michaels).

S[terna] aleutica COUES, Key N. Am. Birds; 2d ed., 1884, 768.—RIDGWAY, Man. N. Am. Birds, 1887, 45.

Sterna camtschatica (not of Pallas) FINSCH, Abh. nat. Ver. Brem., iii, 1882, 85.

^a The young of *Sterna aleutica* may be very easily distinguished from that of *S. parassea*—the only other small Tern associated with it in Alaska—by the following differences of coloration: (1) The distinctly cinereous rump and upper tail-coverts; (2) the pure white, instead of uniform blackish, outer webs of the lateral rectrices; (3) the deep smoke brown hue of the forehead, crown, nape, and sides of the breast; (4) the broad white anterior border to the forearm; (5) the dusky stripe near the edge of the inner webs of the primaries; and (6) the much darker general coloration, and especially the blackish dorsal region, with wide, deep ochraceous borders to the feathers. The adult needs no comparison with any other species of the genus.

^b Five specimens.

^c Four specimens.

STERNA ANÆTHETA RECOGNITA (Mathews).

CARIBBEAN BRIDLED TERN.

Similar to *S. a. anætheta*^a but under parts wholly pure white, hindneck white, and lateral rectrices white with very little brownish gray on terminal portion of inner web only.

Adults (sexes alike).—Forehead and superciliary region, lower portion of lores, suborbital region, lower portion of auricular region, and entire under parts, including axillars and under wing-coverts, immaculate pure white; lower hindneck grayish white or very pale gray; crown, occiput, nape, upper hindneck, postocular region (including upper portion of auricular region) and broad stripe across lores (from bill to eye) uniform black; back, scapulars, rump, upper tail-coverts and eight middle rectrices plain blackish fuscous, becoming more grayish (nearly quaker drab) on upper back, where fading anteriorly to grayish white on lower hindneck; wings deeper fuscous-black, the primaries darker (more nearly black), the anterior margin of wing, abruptly, pure white; outermost pair of rectrices white, with terminal portion of inner web brownish gray, the next pair similar but with much more gray, this on terminal portion of outer web also; the third pair (from outside) with the dusky grayish general color passing into white basally, more extensively on inner web; inner webs of primaries with an extensive, well-defined "wedge" of white; bill, legs, and feet black.

Adult male.—Wing, 251–263 (257); tail, 147.5–164 (155.1); exposed culmen, 39–41 (39.9); tarsus, 19–21 (20.2); middle toe, 22–23.5 (23).^b

Adult female.—Wing, 255–263 (258.8); tail, 150.5–174 (162.9); exposed culmen, 38–40.5 (39.2); tarsus, 19.5–20.5 (20); middle toe, 22–24 (22.9).^c

^a See p. 487.^b Six specimens.^c Five specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Bahamas (Booby Rock).....	257	164	.....	21	23.5
Five adult males from Porto Rico (Desechio Island and Aguadilla).....	257	153.3	39.9	20	22.9
Seven adult males from coast of Guerrero (<i>S. a. nelsoni</i>).....	267.7	170	42	20.7	23.5
Three adult males from southern China Sea (<i>S. a. anætheta</i>)...	267.5	173.2	42.5	21.5	23.3
One adult male from "Island of Candia" (<i>S. a.</i> —?).....	261	122	37.5	19	20
One adult male from Mahe, Seychelles (<i>S. a. antarctica</i>).....	206	141	40	18	20.5
FEMALES.					
Three adult females from Porto Rico (Desechio Island).....	257	166	39.5	19.9	22
Two adult females from Tobago.....	261.5	162.2	38.7	20.2	22.7
One adult female from coast of Guerrero (<i>S. a. nelsoni</i>).....	260	170	40.5	20	23
One adult female from off coast of Central America (<i>S. a. nelsoni</i>)...	270	169	36	20	.....
Two adult females from southern China Sea (<i>S. a. anætheta</i>)...	266.5	175.5	39.7	20	22.2
One adult female from eastern Sumatra (<i>S. a. anætheta</i>).....	263	176.5	41	21	22

Western portion of middle Atlantic Ocean and Caribbean Sea, breeding from Bahama Islands to coast of Venezuela, and on cays of British Honduras (Saddle Cay; Lighthouse Reef; Southern Water Cay; coast near Belize); ^a accidental in Florida (Cape Canaveral), Georgia (coast, Sept., 1902), and South Carolina (Frogmore, Aug. 25, 1885).

Haliplana panayensis (not *Sterna panayensis* Gmelin) SALVIN, Ibis, 1866, 199 (coast of Belize, British Honduras; crit.).

Onychoprion panayensis SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 572, part (monogr.).—ZELEDÓN, Cat. Aves de Costa Rica, 1882, 36 (Costa Rica).

[*Onychoprion*] *panayensis* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147, part.

Haliplana panaya SALVIN, Ibis, 1864, 381 (Saddle Cay, British Honduras).—COUES, Ibis, 1864, 391 (Lighthouse Reef, British Honduras; crit.).

Haliplana discolor COUES, Ibis, 1864, 392 (a new name for *Haliplana panaya* auct. not of Gmelin and Latham).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 101, 105 (Sombbrero, Greater Antilles; habits; crit.).—ELLIOT, New and Unfig. N. Am. Birds, pt. 13, 1869 (vol. ii), pl. 57 and text.

[*Sterna*] *anoetheta* (not *S. anaethetus* Scopoli) COUES, Key, 1872, 323, part (Florida).—CORY, List Birds West Ind., 1885, and rev. ed., 1886, 33.

Sterna anoetheta COUES, Check List, 1873, no. 574.—CORY, Birds Bahama Is. 1880, 215, pl. [8] (Long Island, Bahamas, breeding); Auk, iv, 1887, 96 (Martinique).—WELLS, List Birds Grenada, 1886, 11.

Sterna anoethetus CORY, Auk, v, 1888, 77 (Bahamas, breeding; Cuba; Sombbrero; descr.; synonymy); Birds West Ind., 1889, 278.

Sterna (Haliplana) anoetheta COUES, Birds Northwest, 1874, 701, part (monogr.).

Sterna anoetheta SAUNDERS, Proc. Zool. Soc. Lond., 1876, 664, part (monogr.); 1877, 43 (coast Great Britain); Zoologist, 1877, 213 (mouth of Thames, England?); Cat. Birds Brit. Mus., xxv, 1896, 101, part (Cape Canaveral, Florida; Clarence Harbor, Bahamas; Jamaica; Redonda; Guadeloupe; St. Vincent; Grenada; Southern Water and Saddle cays, British Honduras), 457 (St. Vincent).—LAWRENCE, Proc. U. S. Nat. Mus., i, 1878, 68 (Dominica, breeding); i, 1879, 488 (Dominica).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 220 (1 British record).—GUNDLACH, Journ. für Orn., 1881, 400 (Cuba).—HARTERT, Ibis, 1893, 310 (Aruba; habits; crit.).—BONHOTE, Ibis, 1903, 314 (Andros Island, Bahamas, breeding; habits).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 408 part (Lighthouse Reef, Saddle Cay, Southern Water Cay, etc., British Honduras; Costa Rica; West Indies).

^a The only actual breeding records I have found, however, are the following: Long Island and Andros, Bahamas; Jamaica; Dominica; Guadeloupe; Grenada; Saddle Cay, British Honduras. Other definite localities recorded are the following:

Bahamas: Clarence Harbor; Booby Rock, June 8; Long Rock, off Abaco; Eleuthera; Miraporvo.

Greater Antilles: Jamaica; Porto Rico (Desechio, June 14, July 6; Aguadilla, June 24).

Lesser Antilles: Sombbrero; St. Bartholomew; Redondo; Guadeloupe (breeding); Martinique; St. Vincent; Grenada (breeding).

Dutch West Indies: Aruba.

Tobago.

Bermudas.

Costa Rica: (This, however, may be the Pacific form, *S. a. nelsoni*, since it is not stated whether specimens taken or observed in Costa Rica were on the Atlantic or Pacific side.

- [*Sterna anæstha* SHARPE, Hand-list, i, 1899, 136, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, 1899, 55, part (Bermuda).]
- Sterna anæthetus* BREWSTER, Auk, iii, 1886, 131 (Frogmore, South Carolina, 1 spec., Aug. 25, 1885).—WELLS, Proc. U. S. Nat. Mus., ix, 1887, 632 (Grenada, breeding).—SCOTT, Auk, viii, 1891, 360 (Jamaica, breeding; habits; descr. eggs).—CORY, Cat. West Ind. Birds, 1892, 83 (Abaco, New Providence, Andros, Long, and Miraporvo Islands, Bahamas; Cuba; Jamaica; Sombbrero; Guadeloupe; Dominica).—FIELD, Auk, xi, 1894, 119 (Kingston Harbor, Jamaica, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 2d ed., 1895, no. 76 (excl. syn. and range, part).—ALLEN (G. M.), Auk, xxii, 1905, 118 (Long Rock, off Abaco, Bahamas).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 258 (St. Vincent; Grenadines; Grenada; descr. eggs).—RILEY, Auk, xxii, 1905, 353 (Andros, Eleuthera, and near Abaco Island, Bahamas).
- S[terna] anæthetus* RIDGWAY, Man. N. Am. Birds, 1887, 46, part (Florida coast).
- Sterna anæstha* HARTERT, Novit. Zool., ix, 1902, 309 (Aruba; habits).
- Sterna anæstha* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 46.—ROSSIGNOL, Auk, xxx, 1913, 105 (coast of Georgia, 1 spec., Sept., 1902).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 46 (Desechio and Mona Islands, Porto Rico, breeding; food).
- Sterna anæsthetica* COUES, Check List, 2d ed., 1882, no. 805.
- [*Sterna anæsthetica* COUES, Key, 2d ed., 1884, 769.
- Sterna nubilosa* (not of SPATMAN) SUNDEVALL, K. Vet.-Ak. Stockholm Förh., 1869, 589 (St. Bartholomew).
- Melanosterna anæthetus recognita* MATHEWS, Birds of Australia, ii, pt. 4, no. 1, Nov. 1, 1912, 403 (Bahamas).
- Melanosterna anæstha recognita* OBERHOLSER, Auk, xxxiv, April, 1912, 199.

STERNA ANÆTHETA NELSONI Ridgway.^a

PACIFIC BRIDLED TERN.

Similar to *S. a. recognita* but averaging larger, with relatively longer or more slender bill, and under parts of body tinged with pale gray.

Adult male.—Wing, 260–274 (267.7); tail, 163–178 (170); exposed culmen, 41.5–44 (42); tarsus, 20–21.5 (20.7); middle toe, 23–25 (23.8).^b

Adult female.—Wing, 260–270 (265); tail, 169–170 (169.5); exposed culmen, 36–40.5 (38.2); tarsus, 20; middle toe (one specimen), 23.^c

Pacific coast of Mexico and Central America (Sihuatanejo, Guerrero, April 9, 1903; off coast of Central America, May 29, 1867).

STERNA FUSCATA FUSCATA Linnaeus.

SOOTY TERN.

Adults in summer (sexes alike).—Forehead (including latero-frontal antæ and a lateral extension on each side of crown as far backward as middle of eye), suborbital region, lower half or more of auricular re-

^a New subspecies. Type, U. S. Nat. Mus. (Biol. Survey Collection), no. 185437, adult male, Sihuatanejo, Guerrero, Mexico, April 9, 1903; Nelson and Goldman.

^b Seven specimens, from Sihuatanejo, Guerrero.

^c Two specimens, one from Sihuatanejo, one from "off coast of Central America."

gion, and entire under parts, including axillars and under wing-coverts, immaculate white, the posterior under parts (especially under tail-coverts) very faintly tinged with pale gray; crown, occiput, nape, upper portion of auricular region, and broad stripe on lores (from lower portion of lateral base of maxilla to anterior angle of eye) uniform deep black, this extending narrowly above eye; rest of upper parts, including hindneck, rump, upper tail-coverts, and tail plain fuscous-black, the remiges with a somewhat grayish cast, the feathers of hindneck white beneath surface; anterior margin of lesser wing-covert area, abruptly, white; lateral pair of rectrices white, with distal portion of inner web, more or less extensively, dusky; next pair of rectrices with inner web blackish distally, passing into pale gray or grayish white basally; inner webs of primaries neutral gray with a well-defined stripe of dusky next to shaft, the latter yellowish white; bill, black; iris, dark brown; legs and feet, dusky or blackish.

Adults in winter.—Similar to summer adults but, according to Saunders^a "with white flecks on the lores and crown."

Immature.—"Brownish black above, darker on the upper wing-coverts; outer tail-feathers nearly as sooty black as the rest of the rectrices, except towards the tips; tarsi and toes reddish brown."^a

Young.—Upper parts deep sooty brown (clove brown to blackish brown or fuscous-black), the scapulars, interscapulars, tertials, smaller wing-coverts, feathers of rump, and upper tail-coverts tipped with white or brownish white, the bars thus formed broadest on posterior scapulars, narrowest on interscapulars, rump, and upper tail-coverts; under parts lighter grayish brown (clove brown to dusky drab), passing into much lighter grayish brown or brownish gray on anal region and under tail-coverts, where the feathers are more or less distinctly tipped with a darker or more brownish hue, the abdomen more or less intermixed with white; outermost (and other) rectrices wholly dusky; remiges as in adults, but darker stripe next to shaft on inner webs less distinct; bill brownish black or dusky brown.

Downy young.—Upper parts varying from dark sooty (fuscous-black), narrowly streaked with pale grayish buffy or dull buffy whitish, to pale buffy grayish narrowly and indistinctly, but thickly streaked with dusky; suborbital and malar regions and sides of neck and chest (usually chin and throat also), light brownish gray minutely flecked with paler; rest of under parts immaculate dull white; bill brownish; legs and feet brownish or dusky.

Adult male.—Wing, 272–300 (286.6); tail, 130–162 (148.9); exposed culmen, 40–47 (44.1); tarsus, 22–25 (23.1); middle toe, 19–22 (20.9).^b

^a Cat. Birds Brit. Mus., xxv, 1896, 109.

^b Seven specimens from Arcas Keys, Yucatan.

Adult female.—Wing, 278–295 (286.5); tail, 134–136 (135); exposed culmen, 42.5–44 (43.2); tarsus, 20.5–22.5 (21.5); middle toe, 19.5–20 (19.7).^a

Middle Atlantic Ocean and contiguous American waters; breeding from coast of Florida, Louisiana, Texas, and Bahamas through West Indies to islands near coast of British Honduras (Curlew Cay; Saddle Cay; Southern Water Cay), island of Los Hermanos, off Venezuela, island of Fernando Noronha, Ascencion Island, etc.; casual northward (after storms at sea) to North Carolina (Fort Macon), New Jersey (Long Beach), New York (Owasco Lake, Sept. 20, 1876; Constitution Island, Sept. 13, 1878; Lake Ronkonkoma, Long Island, Sept. 13, 1878; Lake Ontario, near Mexico, Dec.,^b Connecticut (Saybrook, summer, 1876), Rhode Island (Newport, June 8, 1908), Massachusetts (Merrimac River, near Lawrence, Oct. 29, 1876), Vermont (Lake Champlain, Sept., 1876; Rutland, 1876), and Maine (Piscataquis, Oct. 5, 1878); wintering from Gulf coast to Brazil and Falkland Islands; casual in western Europe (3 records for British Islands, 1 each for France, Germany, and Italy) and Azores (Santa Maria).

[*Sterna*] *fuscata* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 228 (Santo Domingo—Haiti, Greater Antilles).—GMELIN, Syst. Nat., i, pt. ii, 1789, 610.—LATHAM, Index Orn., ii, 1790, 807.

^a Two specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Yucatan (Arcas Keys).....	266.6	142.9	44.1	23.1	20.0
Three adult males from Tres Marias (2) and Socorro (1) Islands (<i>S. f. crissalis</i>).....	268	147.7	42	22	20.5
One adult male from lat. 11° 20' N., long. 109° 20' W. (<i>S. f.</i> <i>crissalis</i>).....	260	162	39.5	21	19.5
One adult male from Laysan Island (<i>S. f. oahuensis</i>).....	264	191.5	44	23	21
Two adult males from Gloriosa Island near Madagascar (<i>S. f.</i> <i>infusata</i>).....	263	183	44.2	21.2	20
FEMALES.					
One adult female from Grenada (Ile Ronde).....	278	134	42.5	20.5	19.5
One adult female from Argentina (Tortugas).....	295	136	44	22.5	20
Five adult females from Tres Marias Islands (<i>S. f. crissalis</i>)....	268	151.2	42.1	22	20.0
One adult female from Galapagos (Chatham Island) (<i>S. f. cris-</i> <i>salis</i>).....	271	161.5	41	22	20
One adult female from Laysan Island (<i>S. f. oahuensis</i>).....	294	210	41	23	21.5
One adult female from Gloriosa Island (<i>S. f. infusata</i>).....	297	197	41.5	22	21

^b George A. Davis, in letter to Professor Baird.

- Sterna fuscata* BUREAU, Bull. Soc. Sci. Ouest France, xiv, 1904, 229-233.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 358; Check List, 3d ed., 1910, 46.—STONE, Birds E. Penn. and N. J., 1908, 63 (Long Beach, New Jersey).—HATHAWAY, Auk, xxx, 1913, 547 (near Newport, Rhode Island, 1 spec., June 8, 1908).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 46 (Porto Rico; Mona Island).—HUBER, Auk, xxxiv, 1917, 206 (Corson's Inlet, Cape May Co., New Jersey, Sept. 7, 1916).
- Sterna fuscata fuscata* NOBLE, Bull. Mus. Comp. Zool., lx, Aug., 1916, 369 (Guadeloupe, breeding on outlying islands).
- Anous? fuscatus* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 141.
- (?) *A[nous] fuscata* GRAY, Gen. Birds, iii, 1848, 661.
- Onychoprion fuscatus fuscatus* MATHEWS, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 394 (Atlantic Ocean).
- Onychoprion fuscatus* OBERHOLSER, Auk, xxxiv, April, 1917, 199.
- [*Sterna*] *fuliginosa* GMELIN, Syst. Nat., i, pt. ii, 1789, 605 (Atlantic Ocean, etc.).—LATHAM, Index Orn., ii, 1790, 804, part (islands in Atlantic Ocean).—ALBRECHT, Journ. für Orn., 1861, 58 (Bahamas).—COUES, Key N. Am. Birds, 1872, 322.—CORY, List Birds West Ind., revised ed., 1886, 33.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 55, part (Bermudas; United States).—SHARPE, Hand-list, i, 1899, 136, part.
- Sterna fuliginosa* WILSON, Am. Orn., viii, 1814, 145, pl. 72, fig. 7.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 168.—BONAPARTE, Obs. Nomencl. Wilson, 1826, no. 245; Ann. Lyc. N. Y., ii, 1827, 355.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 164.—LESSON, Traité d'Orn., 1831, 622.—JARDINE, ed. Wilson's Am. Orn., iii, 1832, 182; Contr. Orn., 1849, 86 (Bermudas, 1 spec.).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 284.—AUDUBON, Orn. Biog., iii, 1835, 263, pl. 235; v, 1839, 641; Synopsis, 1839, 317; Birds Am., 8vo ed., vii, 1844, 90, pl. 432.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Aves., 1839, 215.—HURDIS, Jardine's Contr. Orn., 1850, 13 (Bermudas, Oct., 1846).—BROWN, Zoologist, xi, 1853, 3755 (England).—YARRELL, Brit. Birds, 2d Suppl., 1856, 50.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 861 (Florida to Texas); Proc. U. S. Nat. Mus., i, 1878, 68 (Dominica), 277 (Grenada, breeding), 462 (Guadeloupe).—BAIRD, Cat. N. Am. Birds, 1859, no. 688.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 134 (Bahamas); xi, 1867, 98 (Santo Domingo).—(?) HENRY, Proc. Ac. Nat. Sci. Phila., 1859, 109 (Rio Grande, New Mexico).—JONES, Naturalist in Bermuda, 1859, 91.—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 238 (Bermudas).—NAUMANN, Vög. Deutschl., Anhang, xiii, 1860, 267, pl. 387.—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 25.—TAYLOR, Ibis, 1864, 172 (Tortola, Lesser Antilles).—DRESSER, Ibis, 1866, 44 (coast Texas).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 462.—SUNDEVALL, Oefv. K. Vet.-Ak. Förh. Stockholm, 1869, 589 (St. Bartholomew), 603 (Porto Rico).—HARTING, Handb. Brit. Birds, 1872, 169 (Tutbury, England).—COUES, Check List, 1873, no. 573; 2d ed., 1882, no. 804.—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 666, part (monogr.); 1877, 796, part (Ascension Island); 1886, 6 (Bath, England); Journ. Linn. Soc., xiv, 1878, 404, part (range); Voy. 'Challenger', ii, pt. viii, 1881, 136, part (Ascension Island); ed. Yarrell's Brit. Birds, iii, 1884, 562; Illustr. Man. Brit. Birds, 1889, 637; Cat. Birds Brit. Mus., xxv, 1896, 106, part (Corpus Christi Pass, Texas; Southern Water Cay, Brit. Honduras; mouth of Rio Amazonas; Jamaica; Fernando Noronha Island; Ascension Island; Fernando Po, w. Africa).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 292.—PURDIE, Bull. Nutt. Orn. Club, ii, 1877, 22 (Saybrook, Connecticut, 1 spec., summer 1876).—DEANE, Bull. Nutt. Orn. Club, ii, 1877, 27 (Merrimac River, near Lawrence, Massachusetts, 1 spec., Oct. 29, 1876); v, 1880, 64 (Piscataquis, Maine, 1 spec., Oct. 5, 1878).—RATHBUN, Rev. List Birds Centr. New

- York, 1879, 41 (Owasco Lake, New York, 1 spec., Sept. 20, 1876).—MEANS, Bull. Essex Inst., xiii, 1881, 87 (near West Point, New York, 1 spec., Sept. 14, 1878; Constitution Island, 1 spec., Sept. 13, 1878).—PENROSE, Ibis, 1879, 277 (Ascension Island; habits; descr. young and nest and eggs).—BREWER, Proc. Bost. Soc. N. H., xx, 1879, 276 (Lake Champlain, Vermont, 1 spec., Sept., 1876; Rutland, Vermont, 1 spec., 1876).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 220 (3 British, 1 French, 1 German, 1 Italian records).—CORY, Birds Bahama Is., 1880, 214; Birds Haiti and San Dom., 1885, 181; Auk, v, 1888, 78 (West Indian localities and references); Birds West Ind., 1889, 279; Cat. West Ind. Birds, 1892, 83 (Abaco, New Providence, and Long islands, Bahamas; Cuba; Jamaica; Haiti; Porto Rico; St. Thomas; St. Croix, Greater Antilles; St. Bartholomew, Guadeloupe, Dominica, Grenada, Lesser Antilles); Field Mus. N. H., Pub. 137, 1909, 226 (Los Hermanos Island, breeding).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 691; Auk, iii, 1886, 433 (descr. young).—MERRIAM, Auk, i, 1884, 59 (Lake Champlain, 1 spec., Sept. 6, 1876).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 312.—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 270 (Bermudas, rare resident).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886 (and 2d ed., 1895), no. 75.—DUTCHER, Auk, iii, 1886, 433 (Lake Ronkonkoma, Long Island, 1 spec., Sept. 13, 1878).—SENNETT, Auk, iv, 1887, 24 (descr. downy young).—WELLS, List Birds Grenada, 1886, 11; Proc. U. S. Nat. Mus., ix, 1887, 632 (Grenada, breeding).—BECKHAM, Proc. U. S. Nat. Mus., x, 1888, 644 (Corpus Christi, Texas).—YOUNG, Ibis, 1891, 145 (Morant Cays, Jamaica).—SCOTT, Auk, viii, 1891, 361 (Jamaica, breeding; habits; descr. eggs).—VERRILL (G. E.), Trans. Conn. Acad. Arts and Sci., viii, 1892, 219 (Dominica).—STONE, Birds E. Penn. and N. J., 1894, 47 (Pennsylvania and New Jersey records).—BEYER, Proc. Louisiana Soc. Nat. for 1897-99 (1900), 86 (coast of Louisiana, resident).—BONHOTE, Ibis, 1903, 314 (Andros Island, Bahamas, breeding; habits).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 409, part (Curlew Cay, Saddle Cay, Southern Water Cay, etc., Brit. Honduras; Ruatan Island, Honduras; Greytown, Nicaragua; Carolinas to New England).—NICOLL, Ibis, 1904, 39 (Fernando Noronha, breeding).—HARTER and GRANT, Novit. Zool., xii, 1905, 101 (Santa Maria, Azores).—BERLEPSCH, Novit. Zool., xv, 1908, 309 (Cayenne).
- [Sterna] fuliginosa* BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [212].—NEWTON (A. and E.), Handb. Jamaica, 1881, 117.—COUES, Key N. Am. Birds, 2d ed., 1884, 768.
- [Sterna] fuliginosa* MARTENS, Journ. für Orn., 1859, 222 (Bermudas).—GUNDLACH, Journ. für Orn., 1862, 93 (Cuba; crit.).
- [Sterna] fuliginosa* CORY, List Birds West Ind., 1885, and rev. ed., 1886, 33.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 55, part (Bermuda).
- Hydrochelidon fuliginosum* BONAPARTE, Geog. and Comp. List, 1838, 61.
- Hydrochelidon fuliginosa* GOSSE, Birds Jamaica, 1847, 493.—ALBRECHT, Journ. für Orn., 1862, 207 (Jamaica).—BREWER, Proc. Bost. Soc. N. H., vii, 1880, 308 (Cuba).
- Halip[ana] fuliginosa* WAGLER, Isis, 1832, 1224.
- Halip[ana] fuliginosa* CABANIS, Journ. für Orn., 1857, 233 (Cuba).—COUES, Proc. Acad. Nat. Sci. Phila., 1862, 556, part (monogr.); 1871, 46 (Fort Macao, North Carolina).—SALVIN, Ibis, 1864, 392 (Curlew Cay, Brit. Honduras, 1866, 200 (coast of Belize, Brit. Honduras).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 184 (Greytown, Nicaragua).—GUNDLACH, Journ. für Orn., 1874, 314 (Porto Rico); 1875, 393 (Cuba); Repert. Fisico-Nat. Cuba, i, 1866, 393; 1873, 163, 191 (Porto Rico); Orn. Cubana, 1876, 311; Anal. Soc. Esp. Hist. Nat., vii, 1878, 414 (Porto Rico).—STAHL, Ornith., iii, 1887, 453 (Porto Rico).

- [*Haliplana*] *fuliginosa* GUNDLACH, Journ. für Orn., 1861, 346 (Cuba).
Sterna (Haliplana) fuliginosa COUES, Birds Northwest, 1874, 698, part (monogr.).
Onychoprion fuliginosus SOLATER, Proc. Zool. Soc. Lond., 1856, 144 (Ascension Island).—NEWTON (A. and E.), Ibis, 1859, 371 (St. Croix, Lesser Antilles).—CASSIN, Proc. Acad. Nat. Sci. Phila., 1860, 379 (St. Thomas, Greater Antilles).—SOLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 572, part (monogr.).—GIGLIOLI, Ibis, 1881, 218 (Piedmont, Italy); Avifauna Ital., 1886, 415.—ZELEDÓN, Cat. Aves de Costa Rica, 1882, 36.
[*Onychoprion*] *fuliginosus* SOLATER and SALVIN, Nom. Av. Neotr., 1873, 147, part.
[*Sterna*] *spadicea* GMELIN, Syst. Nat., i, pt. ii, 1789, 610 (Cayenne; founded on the Brown Tern Latham Syn., iii, 2, 359, no. 12).—LATHAM, Index Orn., ii, 1790, 807 (Cayenne).
Sterna spadicea VIELLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 175.
Anous? spadicea STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 143.
Anous l'herminieri LESSON, Descr. Mam. et Ois., 1847, 255 (Antilles; =young).

STERNA FUSCATA CRISSALIS (Lawrence).

SOCORRO SOOTY TERN.

Similar to *S. f. fuscata* but underparts much more strongly tinged with gray, this gray tinge extending forward to chest, though deeper posteriorly; similar in coloration to *S. f. oahuensis*^a but lateral rectrices less elongated and with inner webs more extensively dusky terminally.

Adult male.—Wing, 280–292 (286); tail, 135–170 (151.2); exposed culmen, 39.5–43.5 (41.4); tarsus, 21–23 (21.7); middle toe, 19.5–20.5 (20.2).^b

Adult female.—Wing, 271–298 (285.2); tail, 124–161.5 (152.9) exposed culmen, 41–43.5 (41.9); tarsus, 21–23 (22); middle toe, 20–21.5 (20.7).^c

Pacific coast of Mexico and Central America, from Sinaloa (Mazatlán) and Tepic (Tres Marias Islands; Isabella Island) to Panamá (Panamá; Santiago de Veragua) and southward to Clipperton Island and Galápagos Archipelago (Crossman, Culpepper, and Wenman islands); breeding on Isabella Island, off Tepic, Socorro Island and Oneal Rock, Revillagigedo group, Clipperton Island, and Culpepper Island.

(?) *Sterna luctuosa* PHILIPPI and LANDBROK, Wiegmann's Archiv für Naturg., 1866, i, 126 (Valdivia, Chile).

Haliplana fuliginosa (not *Sterna fuliginosa* Gmelin) SALVIN, Proc. Zool. Soc. Lond., 1867, 161 (Santiago de Veragua, Panama).

Sterna fuliginosa (not of Gmelin) ANTHONY, Auk, xv, 1898, 316 (Socorro Island, breeding).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 89 (Culpepper Island, Galapagos), 107 (at sea north of Culpepper Island), 191 (Culpepper and Wenman islands, crit.); ix, 1902, 413 (Culpepper Island, breeding; Clipperton Island), 418 (Culpepper Island, breeding; Wenman Island).—SNODGRASS and HELLER, Proc. Wash. Acad. Sci., iv, 1902, 505 (Clipperton Island; descr.; measurements; habits; descr. eggs).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 409, part (Socorro, Isabella, and Tres Marias islands and Mazatlan, w. Mexico; Panama and Santiago de Veragua, Panama).—GIFFORD,

^a See p. 488.

^b Four specimens.

^c Six specimens.

Proc. Calif. Acad. Sci., 4th ser., ii, pt. 1, 1913, 19 (Crossman, Culpepper, and Wenman islands, Galapagos; habits; Clipperton Island and Oneal Rock, near Socorro Island).

S[terna] fuliginosa ROTHSCILD and HARTERT, Novit. Zool., vi, 1899, 204 (Wenman and Culpepper islands).

Haliplana fuliginosa var. *crissalis* LAWRENCE, Proc. Bost. Soc. N. H., xiv, 1871 (pub. 1872), 285 (Socorro Island, Revillagigedo group, w. Mexico; coll. U. S. Nat. Mus.; ex Baird, manuscript); Mem. Bost. Soc. N. H., ii, 1874, 318 (Socorro; Tres Marias).

Sterna fuliginosa crissalis NELSON, N. Am. Fauna, no. 14, 1899, 24 (Tres Marias Islands; Isabella Island; habits; crit.).—BAILLY (H. H.), Auk, xxiii, 1906, 378 (Isabella Island, w. Mexico, breeding).

Sterna fuscata crissalis AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 345.

[*Sterna*] *crissalis* SHARPE, Hand-list, i, 1899, 136.

Genus STERNULA Boie.

Sternula BOIE, Isis, x, 1822, 563. (Type, by monotypy, *Sterna minuta* LINNÆUS=*S. albifrons* Pallas.)

Very small Sternidæ (wing not more than 185 mm., usually considerably less), with gonys much longer than mandibular rami; tail only about half as long as wing, with lateral rectrices slender and acuminate terminally, and tarsus not longer than middle toe with claw.

Bill about as long as head, rather slender, with gonys decidedly longer than mandibular rami and with basal angle rather prominent; latero-frontal antia nearer (in vertical line) to mental than to malar antia. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than twice the distance from tips of the latter to bend of wing. Tail about half as long as wing, forked for less than half its length, the lateral rectrices slender and acuminate, or subacuminate, terminally. Tarsus slightly shorter than middle toe with claw; webs with anterior margin slightly or moderately incised.

Plumage and coloration.—Occipital feathers normal (soft and blended). Adults of most species with forehead and under parts white (the latter sometimes gray), the rest of pileum (sometimes whole pileum) and a loreal streak black; back, wings, etc., pale gray. Downy young buffy or buffy-whitish above, sometimes nearly immaculate, but always (?) with more or less numerous irregular markings of dusky.

Range.—Nearly cosmopolitan. (About eight species, three of them American.)

KEY TO THE AMERICAN SPECIES AND SUBSPECIES OF STERNULA.

- a. Under parts white (or at most very faintly tinged with gray); tail pale gray.
- b. Smaller (wing less—usually much less—than 180 mm.); bill usually tipped with blackish; black loreal streak broader; color of back, etc., paler gray. (*Sternula antillarum*.)

- c. Under parts pure white; gray of upper parts slightly paler; black of pileum less extended posteriorly; outer webs of not more than two outer primaries dusky gray; bill rarely without blackish tip. (Atlantic and Gulf coasts and Mississippi Valley of United States and southward to Venezuela.)

Sternula antillarum antillarum (p. 521).

- cc. Under parts grayish white or very pale gray; gray of upper parts slightly darker; black of pileum extended posteriorly over median portion of nape; outer webs of usually three outer primaries, dusky; bill frequently without blackish tip. (Pacific coast of Mexico and Southern California.)

Sternula antillarum browni (p. 525).

- bb. Larger (wing more than 180 mm.); bill without blackish tip; black loreal streak narrower; color of back, etc., deeper gray. (Eastern South America from Venezuela to Argentina.) *Sternula supercilialis* (extralimital).^a

- aa. Under parts gray; tail deep gray, like back, etc. (Coast of Peru and Northern Chile.) *Sternula lorata* (extralimital).^b

STERNULA ANTILLARUM ANTILLARUM (Lesson).

LEAST TERN.

Adults in summer (sexes alike).—Forehead and sides of crown white; a narrow stripe on lores (from bill to eye), crown, occiput, and upper portion of nape uniform deep black; rest of head and entire under parts, including axillars and under wing-coverts, immaculate pure white; upper parts, including hindneck, rump, upper tail-coverts, and tail plain pallid neutral gray, slightly deeper gray on back, scapulars, and wings; two outer primaries dusky gray or blackish slate color, their inner webs broadly edged with white, the remaining primaries pallid neutral gray (like coverts, etc.), their inner webs edged with white; bill bright yellow, usually tipped with black; iris dark brown; legs and feet orange-yellow (in life).

Adults in winter.—Similar to summer adults but lores, forehead, and crown grayish-white (purer white anteriorly), an occipital crescent and a stripe extending from this to and surrounding eye, blackish; bill blackish or dusky; legs and feet dull yellow.

Young.—Somewhat like winter adults, but humeral region with a broad space of dusky grayish, scapulars and interscapulars with V-

^a *Sterna supercilialis* Vieillot, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 176 (Paraguay; based on *Hati ceja blanca* Azara, Apunt. Parag., iii, 1802, 377); Sclater and Salvin, Proc. Zool. Soc. Lond., 1871, 571 (monogr.); Saunders, Proc. Zool. Soc. Lond., 1876, 662 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 124.—*Sternula supercilialis* Boie, Isis, 1844, 183.—*Sterna maculata* Vieillot, Nouv. Dict. d'Hist. Nat., xxii, 1819, 176 (Paraguay; based on *Hati manchado* Azara, Apunt. Parag., iii, 1802, 377=young).—*Sterna argentea* Maximilian, Reis. Bras., i, 1820, 67 (Beitr. Naturg. Bras., iv, pt. ii, 1823, 871 (Rio Parahyba, s. e. Brazil; type now in coll. Am. Mus. N. H.)).—*Sternula argentea* Boie, Isis, 1844, 183.

^b *Sterna lorata* Philippi and Landbeck, Wiegmann's Archiv für Naturg., 1863, pt. i, 124; Saunders, Cat. Birds, Brit. Mus., xxv, 1896, 126.—[*Sterna*] *loricata* Gray, Hand-list, iii, 1871, 121, no. 11068.—*Sterna exilis* (not of Technid) Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 336, 344 (monogr.); Saunders, Proc. Zool. Soc. Lond., 1876, 663 (monogr.); Taczanowski, Orn. du Pérou, iii, 1886, 445.

or U-shaped submarginal markings of dusky, crown streaked and occiput mottled with dusky, and primaries darker gray; bill dusky, more brownish basally; legs and feet brownish (in dried skins).

Downy young.—Upper parts buffy-white to deep pinkish-buff, nearly immaculate, but with one or more small irregular black spots on occiput, or on occiput and crown, and a few small and indistinct irregular spots or streaks of dusky on rump; under parts immaculate white or buffy white, the throat usually more buffy; bill pale yellowish brown, tipped with dusky; legs and feet pale yellowish.

Adult male.—Wing, 163–178 (168.1); tail, 70–93 (81.2); exposed culmen, 26–31 (28.8); tarsus, 14–15.5 (14.5); middle toe, 11.5–13.5 (12.8).^a

Adult female.—Wing, 160–167 (162.9); tail, 61–85.5 (72.9); exposed culmen, 25.5–30 (27.5); tarsus, 14–16 (14.7); middle toe, 11–13 (12.2).^b

Breeding along Atlantic and Gulf coasts of United States, from eastern Massachusetts (Ipswich; Nantucket Island; Martha's Vineyard)—formerly from Maine—to Texas, up the Mississippi Valley to northern Indiana (Wolf Lake, Noble County), Iowa, southeastern South Dakota, and northwestern Nebraska (at least formerly), and southward throughout Bahamas and West Indies and Gulf coast of Mexico to British Honduras (Glover's Cay; Grassy Cay; Long Cay) and coast of Venezuela; casual or accidental in Labrador, Newfoundland, and Colorado (Colorado Springs; Fort Collins); occurs also, at least as migrant or winter resident, on islands

^a Fourteen specimens.

^b Thirteen specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Eight adult males from Virginia (5) and Maryland (3).....	167.9	81.6	27.4	14.6	12.6
One adult male from South Carolina.....	109	85	30	15	12.5
One adult male from Florida.....	167	81.5	30	14.5	12.3
One adult male from Bahamas (Andros Island, June).....	168	75	27.5	14.5	12
Three adult males from Cuba (Cabañas, May 29–31).....	170.2	81	29	14.3	12.3
Three adult males from Pacific coast at U. S. and Mexican boundary (<i>S. a. browni</i>).....	166	75.7	28.2	14.3	12.2
FEMALES.					
Four adult females from Virginia (3) and Maryland (1).....	160.6	70.9	27.6	15	12.6
Three adult females from North Carolina.....	165.8	78	26.5	14.3	12.2
Three adult females from South Carolina.....	161.2	68	27.8	15	11.7
Three adult females from Cuba (Cabañas, May 29–31).....	165	78.5	28.2	14.5	12.2
Two adult females from Pacific coast at U. S. and Mexican boundary (<i>S. a. browni</i>).....	166.2	75	24.5	14	11.5

of Aruba and Bonaire, Dutch West Indies, Trinidad, Margarita Island, off Venezuela, and coast of northeastern Brazil (Piahy, etc.); occurs occasionally in winter on coast of western and southwestern Africa.

[*Sterna*] *minuta* (not of Linnæus) LATHAM, Index Orn., ii, 1790, 809, part (America).

Sterna minuta WILSON, Am. Orn., vii, 1818, 80, pl. 60, fig. 2.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 355.—JARDINE, ed. Wilson's Am. Orn., ii, 1832, 371.—AUDUBON, Orn. Biog., iv, 1838, 175, pl. 319; Synopsis, 1839, 321; Birds Am., 8vo. ed., vii, 1844, 119, pl. 439.—GIRAUD, Birds Long Island, 1844, 350.—LEMBEYE, Aves de la Isla de Cuba, 1850, 123.—PUTNAM, Proc. Essex Inst., i, 1856, 221 (Massachusetts).—SHARPE, Ibis, 1872, 74 (Nagua River, Fantee, w. Africa).

[*Sterna*] *minuta* BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [208].

Sterna argentea (not of Maximilian, 1820) NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 280.—BONAPARTE, Geog. and Comp. List, 1838, 61.—GOSSE, Birds Jamaica, 1847, 437.—ALBRECHT, Journ. für Orn., 1862, 207 (Jamaica).—LÉOTAUD, Ois. Trinidad, 1866, 545.

(?) *Sternula bailloni* BOIE, Isis, 1844, 183 (Newfoundland).

Sternula antillarum LESSON, Compl. Oeuvres Buffon, xx, or Descr. Mam. et Ois., 1847, 256 (Guadeloupe, Lesser Antilles; = young).—GUNDLACH, Journ. für Orn., 1871, 294 (Cuba).

Sternula antillarum antillarum OBERHOLSER, Auk, xxxiv, April, 1917, 199.

Sterna antillarum COUES, Proc. Ac. Nat. Sci. Phila., 1862, 552 (monogr.); Ibis, 1864, 390 (Glovers Reef, Brit. Honduras; crit.); Proc. Essex Inst., v, 1868, 308 (New England, breeding); Proc. Ac. Nat. Sci. Phila., 1871, 45 (Fort Macon, North Carolina, breeding); Proc. Bost. Soc. N. H., xii, 1868, 126 (South Carolina).—SALVIN, Ibis, 1864, 384 (Long Cay, Brit. Honduras); 1866, 199 (Long Cay and Grassy Cay, Brit. Honduras; crit.).—LAWRENCE, Ann. Lyc. N. Y., viii, 1864, 106 (Sombrero, Lesser Antilles); Proc. U. S. Nat. Mus., i, 1878, 68 (Dominica).—GUNDLACH, Journ. für Orn., 1875, 391 (Cuba; habits); Anal. Soc. Esp. Hist. Nat., vii, 1878, 412 (Porto Rico).—BRYANT, Proc. Bost. Soc. N. H., xi, 1867, 98 (Santo Domingo).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 571 (monogr.).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 661, part (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 122, part (Ipswich, Massachusetts, June, July; Nantucket, Massachusetts; Bone Island and Cobbs Island, Virginia, June, July; Capers Island, South Carolina; Brownsville and Corpus Christi, Texas, May; Antigua; Barbados; Venezuela; Long Cay, Glovers Reef, Brit. Honduras; Nagua River, Fantee, w. Africa).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 172 (Fort Brown, Texas, breeding).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 227 (Long Beach, New Jersey, breeding); Auk, vii, 1890, 306 (Dry Tortugas, Florida, breeding).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 208, part; Nom. N. Am. Birds, 1881, no. 690, part.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 309, part.—CORY, Birds Haiti and San Dom., 1885, 179; Auk, v, 1888, 79 (West Indian localities and references); Birds West Ind., 1889, 280; Cat. West Ind. Birds, 1892, 83 (Abaco, New Providence, Andros, Great Inagua, and Cay Sal islands, Bahamas; Cuba; Jamaica; Haiti; Porto Rico; St. Bartholomew; Antigua; Guadeloupe; Dominica; Barbados).—AGERSBERG, Auk, ii, 1885, 289 (s. e. South Dakota, breeding).—Goss, Auk, iii, 1886, 115 (Kansas, breeding); Birds Kansas, 1886, 3.—RALPH and BAGG, Trans. Oneida Hist. Soc., iii,

- 1886, 104 (near Hartford, Oneida Co., New York, 1 spec.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 74; 3rd ed., 1910, p. 45.—COOKE, Bird Migr. Miss. Val., 1888, 58; Auk, xi, 1894, 183 (Colorado Springs and Fort Collins, Colorado).—FEILDEN, Ibis, 1889, 502 (Barbados).—SHOOK, Auk, vii, 1890, 327 (Seven Mile Beach, New Jersey, breeding).—ROADS, Proc. Ac. Nat. Sci. Phila., 1892, 101 (Texas).—HARTERT, Ibis, 1893, 310 (Aruba and Bonaire, Dutch West Indies; habita), 337 (Bonaire); Novit. Zool., ix, 1902, 308 (Aruba; Bonaire).—STONE (W.), Birds E. Penn. and N. J., 1894, 47.—BUTLER, Proc. Ind. Acad. Sci. for 1893 (1894), 119 (breeding at Wolf Lake, Noble Co., n. w. Indiana).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 84 (Trinidad).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1895, 653 (Margarita Island, Venezuela, breeding).—HOWE, Auk, xiv, 1897, 402 (Marthas Vineyard, Massachusetts, breeding).—STONE (C. F.), Auk, xvi, 1899, 284 (Yates Co., New York, 3 specs., Sept. 6-11, 1896).—BEYER, Proc. Louis. Soc. Nat. for 1897-99 (1900), 86 (coast Louisiana, resident).—SMITH (H. M.), Auk, xix, 1902, 76 (Marthas Vineyard, Massachusetts, breeding).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 410, part (Matamoros, Tamaulipas; Long Cay, Grassy Cay, and Glovers Reef, Brit. Honduras; Coban, Guatemala?; coast Venezuela; West Indies; w. coast Africa).—REISER, Denkschr. Mat.-Nat. Kl. Kaiserl. Ak. Wiss. Wien, lxxvi, 1910, 97 (coast of Piahy, etc., n. e. Brazil, Sept.).—WETMORE, Bull. 326, U. S. Dept. Agric., 1916, 47 (Porto Rico, Aug., Sept.).—BANGS, Bull. Mus. Comp. Zool., lx, 1916, 305 (Little Cayman, breeding).
- [*Sterna*] *antillarum* GUNDLACH, Repert. Fisico-Nat. Cuba, i, 1866, 393 (Cuba).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147, part.—GUNDLACH, Journ. für Orn., 1874, 314 (Porto Rico); 1878, 163 (Porto Rico).—CORY, List Birds West Ind., 1885, and revised ed., 1886, 33.—STAHL, Ornith., vol. 3, 1887, 453 (Porto Rico).—SHARPE, Hand-list, i, 1899, 137, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 55 (Virginia; Texas).
- Sterna* *antillarum* COUES, Am. Nat., iii, 1869, 340 (life history).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois); Man. N. Am. Birds, 1887, 46, part.—NELSON, Bull. Essex Inst., ix, 1877, 61 (Cairo, Illinois, common).—NEWTON (A. and E.), Handb. Birds Jamaica, 1881, 117.
- Sterna* *antillarum* GUNDLACH, Journ. für Orn., 1878, 191 (Porto Rico).
- Sterna antillarum antillarum* MEARNs, Proc. Biol. Soc. Wash., xxix, April 4, 1916, 71 (measurements).
- [*Sterna supercilialis* var. *antillarum*] b. *antillarum* COUES, Birds Northwest, 1874, 692, part (monogr.).
- Sterna supercilialis antillarum* MERRIAM, Birds Connecticut, 1877, 134.—SENNETT, Bull. U. S. Geol. and Geog. Surv., iv, 1878, 66 (lower Rio Grande, Texas).—COUES, Check List, 2d ed., 1882, no. 801, part.
- Sterna supercilialis antillarum* COUES, Key N. Am. Birds, 2d ed., 1884, 766, part.
- Sterna supercilialis* var. *antillarum* BAILEY (H. B.), Bull. Nutt. Orn. Club, i, 1876, 28 (Cobbs Island, Virginia, breeding).—LANGDON, Birds Cincinnati, 1877, 18.—RATHBUN (F. R.), Revised List Birds Centr. N. Y., 1879, 41 (Cayuga Lake; 2 specs.).
- Sternula melanorhynchus* LESSON, Descr. Mam. et Ois., 1847, 257 (Guadeloupe, Lesser Antilles; = young).
- Sterna frenata* GAMBEL, Proc. Ac. Nat. Sci. Phila., iv, 1848, 128 (North America).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 864.—BAIRD, Cat. N. Am. Birds, 1859, no. 694.—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—SALVIN and SCLATER, Ibis, 1860, 278 (Coban, Guatemala).—WHEA-

- TON, Ohio Agric. Rep., 1860, no. 276 (Ohio).—BREWER, Proc. Bost. Soc. N. H., vii, 1860, 308 (Cuba).—COUES and PRENTISS, An. Rep. Smithson. Inst. for 1861 (1862), 418 (District of Columbia).—ALLEN, Proc. Essex Inst., 1864, 90 (Massachusetts).—DRESSER, Ibis, 1866, 44 (s. Texas).—TURNBULL, Birds E. Penn. and N. J., 1869, 39.—SNOW, Birds Kansas, 1873, 12.
- [*Sterna*] *frenata* GUNDLACH, Journ. für Orn., 1862, 93 (Cuba, crit.).
- [*Sternula*] *frenata* BONAPARTE, Compt. Rend., xlii, 1856, 773.—GUNDLACH, Journ. für Orn., 1861, 346 (Cuba).
- [*Sternula*] *australis* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98, *nomen nudum* (South Africa; coll. Berlin Mus.).
- Sterna superciliaris* (not *Sterna superciliaris* Vieillot) CABANIS, Journ. für Orn., 1857, 232 (Cuba).
- Sterna superciliaris* (not of Vieillot, 1819) COUES, Check List, 1873, no. 570.—CORY, Birds Bahama Is., 1880, and 2d ed., 1890, 213.
- St[erna] superciliaris* BLASIUS, Journ. für Orn., 1866, 74.
- [*Sterna*] *superciliaris* GRAY, Hand-list, iii, 1871, 121, no. 11066.—COUES, Key N. Am. Birds, 1872, 322, part.
- S[terna] superciliaris* NELSON, Bull. Essex Inst., viii, 1876, 149 (Calumet marshes, n. e. Illinois, June 11, 1876).
- Sterna minuta americana* SUNDEVALL, Oefv. k. Vet.-Akad. Förh. Stockholm, 1869, 589 (St. Bartholomew, Lesser Antilles).

STERNULA ANTILLARUM BROWNI (Mearns).

BROWN'S LEAST TERN.

Similar to *S. a. antillarum* but under parts grayish white or distinctly tinged with pale gray, gray of upper parts slightly deeper, and black of pileum extended farther down median portion of nape; bill frequently without blackish tip (wholly yellow); and usually with three outer primaries dusky.

Adult male.—Wing, 154–175 (166); tail, 70–80 (75.7); exposed culmen, 27–29 (28.2); tarsus, 14–14.5 (14.3); middle toe, 12–12.5 (12.2).^a

Adult female.—Wing, 165–167.5 (166.2); tail, 68–82 (75); exposed culmen, 24–25 (24.5); tarsus, 14; middle toe, 11–12 (11.5).^b

Pacific coast, from Monterey Bay, California (breeding), southward to Pacific coast of Guatemala.

- Sterna antillarum* (not *Sternula antillarum* Lesson, 1847) COUES, Proc. Ac. Nat. Sci. Phila., 1866, 100 (coast of California).—LAWRENCE, Bull. U. S. Nat. Mus., no. 4, 1876, 52 (San Mateo, Oaxaca, Aug.).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 661, part; Cat. Birds Brit. Mus., xxv, 1896, 122, part (San Blas, Tepic, April).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 206, part; Nom. N. Am. Birds, 1881, no. 690, part.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 309, part.—AMERICAN ORNITHOLOGISTS' Union, Check List, 1886, and 2d ed., 1895, no. 74, part; 3rd ed., 1910, p. 45, part.—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 26 (San Jose del Cabo, Lower California, Sept. 6–12).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 410, part (Manzanillo, Colima; San Blas, Tepic; San Mateo, Gulf of Tehuantepec, Oaxaca; Pacific coast Guatemala).—BECK, Condor, ix, 1907, 58 (near mouth of Salinas River, Monterey Bay, California, breeding).—GRINNELL, Pacific Coast Avifauna, no. 11, 1915, 25 (breeding on coast of California north to Monterey Bay).

^a Three specimens.^b Two specimens.

- [*Sterna*] *antillarum* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147, part.—
 SHEARER, Hand-list, i, 1899, 137, part.
S[terna] *antillarum* RIDGWAY, Man. N. Am. Birds, 1887, 46, part.
 [*Sterna superciliaris* var. *antillarum*] b. *antillarum* COUES, Birds Northwest,
 1874, 692, part (monogr.).
Sterna superciliaris antillarum COUES, Check List, 2d ed., 1882, no. 801, part.
S[terna] *superciliaris antillarum* COUES, Key N. Am. Birds, 2d ed., 1884, 766, part.
Sterna superciliaris (not of Vieillot, 1819) LAWRENCE, Mem. Bost. Soc. N. H., ii,
 1874, 318 (Manzanillo, Colima).
Sterna antillarum browni MEARNS, Proc. Biol. Soc. Wash., xxix, April 4, 1916, 71
 (near Monument no. 258, Mexican Boundary Line, edge of Pacific Ocean,
 San Diego Co., California; coll. U. S. Nat. Mus.).
Sternula antillarum browni OBERHOLSER, Auk, xxxiv, April, 1917, 199.

Genus HYDROCHELIDON Boie.

- Hydrochelidon* BOIE, Isis, x, 1822, 563. (Type, as designated by Gray, 1841,
Sterna nigra Linnaeus.)
Viralva STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 166. (Type, *Sterna nigra*
 Linnaeus.)
Pelodes KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, 107. (Type, by original
 designation, *Sterna leucopareia* Temminck.)
Chlidonias (not *Chlidonia* Hübner, 1816) RAFINESQUE, Kentucky Gazette, n. s., i,
 no. 8, Feb. 21, 1822, [3], col. 5. (Type, by original designation, *C. melanops*
 Rafinesque=*Sterna surinamensis* Gmelin. See Rhoads, Auk, xxix, 1912 197.)

Small Sternidae (wing 190–250 mm.) with incompletely webbed toes and short, slightly forked tail with outer rectrices broadly rounded terminally.

Bill relatively small (little if any longer than head, usually shorter), its depth at base less than one-fourth (*H. nigra*) to more than one-fourth (*H. leucopareia*) as long as exposed culmen, the latter slightly convex distally; gonys about as long as mandibular rami (*H. nigra*) to decidedly shorter (*H. leucopareia*), its basal angle not prominent; nostril elliptical, longitudinal, well separated from latero-frontal antia, the latter broad. Wing rather long and pointed, the longest primary (outermost) exceeding distal secondaries by very much less than twice the distance from tips of the latter to bend of wing. Tail much less than half (very little more than one-third) as long as wing, slightly forked, all the rectrices broad and rounded at tips. Tarsus as long as or longer than middle toe without claw; webs small, very deeply incised, occupying less than half of interdigital spaces.

Plumage and coloration.—Plumage of head, neck, and under parts blended. Summer adults with head and neck, all round, uniform black, or else (*H. leucopareia*) with sides of head (beneath eyes), chin, and throat white; under parts white only on anal region and under tail-coverts, otherwise gray or black.

Range.—Temperate portions of Europe, Asia, and North America; in winter southward to New Zealand, Australia, Africa, and South America. (Three species.)

KEY TO THE SPECIES AND SUBSPECIES OF HYDROCHELIDON.

- a. Under parts not white; pileum uniform black. (*Summer adults*.)
 - b. Upper tail-coverts and lower rump gray; concolor with back; etc.; smaller wing-coverts not conspicuously paler than back.
 - c. Sides of head white; under parts pale gray anteriorly; becoming much darker gray on flanks and abdomen; larger (wing 213.5-249, tarsus 19-22). (Southern and central Europe to China, Philippines, Australia, Africa, etc.; accidental in Barbados.).....*Hydrochelidon leucopareia* (p. 528).
 - cc. Whole head, neck, and under parts (except anal region and under tail-coverts) uniform black or deep gray; smaller (wing 191-215, tarsus 14-18). (*Hydrochelidon nigra*.)
 - d. Under parts gray (light purplish gray to blackish purple-gray). (Europe and western Asia; Africa in winter.)
 - Hydrochelidon nigra nigra* (extralimital).^c
 - dd. Under parts black. (North America, south in winter as far as Chile.)
 - Hydrochelidon nigra surinamensis* (p. 532).
 - bb. Rump white, in contrast with dark gray or grayish black of back; smaller wing-coverts conspicuously paler than back, passing into white anteriorly. (Warmer parts of Eastern Hemisphere; accidental in Wisconsin and Barbados.)
 - Hydrochelidon leucoptera* (p. 536).
- aa. Under parts white; pileum not uniform black.
 - b. Back, scapulars, etc., uniform gray. (*Winter adults*.)
 - c. Rump gray, concolor with back, etc.
 - d. Larger (wing 213.5-249, tarsus 19-22); upper parts much paler gray; bill brownish.....*Hydrochelidon leucopareia*, winter adults (p. 528).
 - dd. Smaller (wing 191-215, tarsus 14-18); upper parts much darker gray; bill black.....*Hydrochelidon nigra nigra*, winter adults (extralimital).
 - Hydrochelidon nigra surinamensis*, winter adults (p. 533).
 - cc. Rump white.....*Hydrochelidon leucoptera*, winter adults (p. 537).

^a [*Sterna*] *nigra* Linnaeus, Syst. Nat., ed. 10, i, 1758, 137 (Sweden).—*Sterna nigra* Selby, Brit. Birds, ii, 1833, 477, pl. 91; Gould, Birds Europe, v, 1837, pl. 422; Naumann, Vög. Deutschl., x, 1840, 189, pl. 256.—*Hydrochelidon nigra* Boie, Isis, 1822, 563; Macgillivray, Brit. Birds, v, 1852, 658; Gould, Birds Great Brit., v, 1873, pl. 75 and text; Dresser, Birds Europe, viii, 1876, 327, pl. 592; Saunders, Proc. Zool. Soc. Lond., 1876, 642 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 17; ed. Yarrell's Hist. Brit. Birds, iii, 1884, 516; Man. Brit. Birds, 1889, 617.—*Hydrochelidon nigra nigra* American Ornithologists' Union, Check List, 3d ed., 1910, 47.—*Virelva nigra* Stephens, Shaw's Gen. Zool., xiii, pt. i, 1826, 167.—*Hydrochelidon nigrum* Bonaparte, Geog. and Comp. List, 1838, 61.—[*Rallus*] *lariformis* Linnaeus, Syst. Nat., ed. 10, i, 1758, 153 (Europe).—[*Hydrochelidon lariformis*.] a. (European references) Coues, Birds Northwest, 1874, 704.—[*Sterna*] *navia* Linnaeus, Syst. Nat., ed. 12, i, 1766, 228 (south Europe=young).—*Larus merulinus* Scopoli, Ann. I. Hist. Nat., 1769, 81.—(?) *Larus columbinus* Scopoli, Ann. I. Hist. Nat., 1769, 83.—*Sterna nubilosa* Sparrman, Mus. Carls., fasc. iii, 1788, no. 63 (Finland;=young).—*Sterna fassipes* (not of Linnaeus) Latham, Index Orn., ii, 1790, 810; Bechstein, Naturg. Deutschl., ii, 1791, 833; Yarrell, Brit. Birds, iii, 1843, 413; ed. 2, iii, 1845, 523; Schlegel, Mus. Pays-Bas, vi, Sternae, 1863, 29; Harting, Handb. Brit. Birds, 1872, 76.—*Hydrochelidon fassipes* Bonaparte, Cat. Ucc. Eur., 1842, 77; Degland and Gerbe, Orn. Eur., ii, 1867, 465; Fritsch, Vög. Eur., 1870, 462, pl. 54, fig. 6; Salvadori, Fauna Ital., Ucc., 1871, 284.—*Hydrochelidon obscura* Brehm, Vög. Deutschl., 1831, 795.—*Hydrochelidon nigricans* Brehm, Vög. Deutschl., 1831, 795.—*Hydrochelidon pallida* Brehm, Naumannia, 1855, 295; Vogelf., 1855, 350.—*Hydrochelidon obscura* Brehm, Naumannia, 1855, 295; Vogelf., 1855, 350.

bb. Back and scapulars partly dusky brown or grayish brown, the feathers margined with buffy whitish or cinnamon. (*Young*.)

c. Rump gray or grayish brown, like back.

d. Larger; general color of upper parts much paler.

Hydrochelidon leucopareia, young (p. 529).

dd. Smaller; general color of upper parts much darker.

Hydrochelidon nigra nigra, young (extralimital).

Hydrochelidon nigra surinamensis, young (p. 533).

cc. Rump white.....*Hydrochelidon leucoptera*, young (p. 537).

HYDROCHELIDON LEUCOPAREIA (Temminck).^a

WHISKERED TERN.

Adults in summer (sexes alike).—Pileum and nape, including greater part of lores and upper portion of auricular region, uniform black; rest of upper parts plain light gray (between neutral gray and light neutral gray, slightly more bluish than light quaker drab), sometimes slightly paler on wing-coverts or darker on back and hindneck, the outer webs of primaries lighter and more silvery gray; lateral rectrices paler gray than middle pair, fading into white basally; lower portion of lores, suborbital region, greater part of auricular region, post-auricular region, and anterior portion of malar region, immaculate white; chin, throat, and posterior half or more of malar region very pale gray (almost grayish white on chin), deepening on neck, all round, and chest into a gray like that of upper parts, this gradually deepening on abdomen, sides, and flanks into deep purplish gray (deep quaker drab or purplish dark quaker drab); under wing-coverts, under tail-coverts, and anal region immaculate white; inner webs of primaries mostly white, the portion next to shaft gray; bill deep red; iris dark brown; legs and feet vermilion red (in life).

Adults in winter.—Forehead, crown, and occiput white, streaked, except on forehead, with blackish, the nape nearly uniform black; sides of head (beneath eyes), neck (all round), and entire under parts immaculate white; lores white, flecked with dusky in front of eyes; otherwise like summer adults, but bill and feet duller red or reddish brown.

^a This species is divided by Mathews (*Birds of Australia*, ii, pt. 3, Sept. 20, 1911, pp. 321-323) into eight subspecies, as follows:

(1) *H. leucopareia leucopareia* (Temminck). (Southern and central Europe; northern Africa.)

(2) *H. leucopareia indica* (Stephens). (Northern India.)

(3) *H. leucopareia leggei* Mathews. (Ceylon.)

(4) *H. leucopareia delalandii* (Bonaparte). (Southern Africa.)

(5) *H. leucopareia swinhoei* Mathews. (China.)

(6) *H. leucopareia javanica* (Horsfield). (Java, etc.)

(7) *H. leucopareia fluvialis* (Gould). (Eastern and southern Australia.)

(8) *H. leucopareia rogersi* Mathews. (Northern and northwestern Australia.)

Owing to lack of sufficient material bearing on any of these supposed forms I am not prepared to express an opinion as to their validity.

Young.—Forehead and anterior half (more or less) of lores (sometimes superciliary region also), sides of head and neck, and entire under parts immaculate white; crown, occiput, and nape nearly uniform dusky, or grayish white spotted or streaked with dusky; general color of upper parts light bluish gray, the hindneck clouded with dusky brown (the feathers white beneath surface), the scapulars broadly dusky subterminally and margined terminally with cinnamon or cinnamon-buffy, the proximal wing-coverts sometimes with indistinct transverse spots of dusky brownish; otherwise as in adults, but bill dusky or dark brownish.

Downy young.—"Down at the base of the bill black, forehead ruddy fawn-color; upper part paler fawn, mottled and streaked with black; under parts white, except the throat, which is sooty black for a few days."^a

Adult male.—Wing, 221–249 (231.5); tail, 80–88 (84.7); exposed culmen, 28–30 (29); tarsus, 19–22 (20.7); middle toe, 18.5–20.5 (19.7).^b

Adult female.—Wing, 219; tail, 83; exposed culmen, 25.5; tarsus, 21.5; middle toe, 20.^c

Southwestern, central, and southern Europe, eastward to China; southward over Africa, India, Malay Archipelago, etc., to Australia; accidental in Barbados, Lesser Antilles.

Sterna leucopareia TEMMINCK, Man. d'Orn., ed. 2, ii, 1820, 746 (Hungary; ex Natterer, manuscript); iv. 1840, 463.—MEYER, Taschenb., iii, 1822, 189.—BOIE, Isis, 1822, 563.—BREHM, Beitr. Vögelk., iii, 1822, 674; Lehrb., 1824, 694.—WERNER, Atlas, Palmipèdes, 1828, pls. 10, 11.—SAVI, Orn. Tosc., iii, 1831, 92.—GOULD, Birds Europe, v, 1837, pl. 424 and text.—NAUMANN, Vög. Deutschl., x, 1840, 168, pl. 255.—SCHINZ, Europ. Faun., 1840, 374.—CRESSON, Faun. Mérid., ii, 1844, 118 (breeding in August).—SCHLEGEL, Rev. Crit., 1844, p. cxxxi.—RÜPPELL, Syst. Ueb., 1845, 139 (Lower Egypt).—

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 14.

^b Four specimens.

^c One specimen.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
Two adult males from Europe.....	239.5	82.5	29.5	21	20
Two adult males from British East Africa (August).....	223.5	87	(28)	20.5	19.5
Two adult males from northern India (Kashmir) (<i>H. l. indica</i>).....	226.2	84.5	29.2	20.5	18.5
Two adult males from Philippines (Mindanao, May) (<i>H. l. swinhoei</i>).....	219.5	76.2	30.5	21.5	19.7
FEMALES.					
One adult female from Egypt.....	219	83	25.5	21.5	20
One adult female from Kashmir (<i>H. l. indica</i>).....	215	81	28	19	18
One adult female from northern China (Tientsin) (<i>H. l. swinhoei</i>).....	219.5	81	27.5	20	18.5
Three adult females from Philippines (Manila Harbor, May) (<i>H. l. swinhoei</i>).....	217	81.5	27.7	19.8	18.5

- YARRELL, Brit. Birds, 2d ed., iii, 1845, 511.—HEWITSON, Eggs Brit. Birds, ii, 1846, 430,* pl. 120.*—THOMPSON, Birds Ireland, iii, 1851, 298.—REICHENBACH, Natatores, 1848, pl. 21, figs. 812-815.—BALDAMUS, Naumannia, 1851, Heft iv, 44 (Hungary, breeding).—KJÆRBØLLING, Danm. Fugle, 1852, 331, pl. 40 B; Suppl., 1854, pl. 21, figs. 1, 2.—POWYS, Ibis, 1860, 357 (Butrinto, in winter).—ANDERSON, Ibis, 1872, 81 (Fyzabad, India, breeding; habits; descr. nest and eggs).
- Virva leucopareia* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1825, 171.
- Pelodes leucopareia* KAUP, Natürl. Syst., 1829, 107.
- Hydrochelidon leucopareia* BREHM, Vög. Deutschl., 1831, 797.—BONAPARTE, Geog. and Comp. List, 1838, 61.—BOIE, Isis, 1844, 184.—MACGILLIVRAY, Brit. Birds, v, 1852, 663.—GOULD, Handb. Birds Australia, ii, 1865, 406; Birds Great Brit., v, 1873, pl. 77 and text.—SHELLEY, Birds Egypt, 1872, 301.—HOLDSWORTH, Proc. Zool. Soc. Lond., 1872, 480 (Ceylon).—WALDEN, Trans. Zool. Soc. Lond., ix, 1877, 244 (Luzon, Philippines).—RAMSAY, Proc. Linn. Soc. N. S. W., i, 1877, 386 (Gulf of Carpentaria).—MEYER (A. B.), Ibis, 1879, 146 (Togian Islands).—HOLUB and PELZELN, Beitr. Orn. Südaf., 1882, 332.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 318.—TACZANOWSKI, Ornith., vol. iv, 1888, 506 (Poland, not breeding).—CORY, Cat. West Ind. Birds, 1892, 83, 136 (Barbados).
- [Hydrochelidon] leucopareia* RIDGWAY, Man. N. Am. Birds, 1887, 47.
- Hydrochelidon leucopareia leucopareia* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (s. and centr. Europe; n. Africa).
- Sterna hybrida* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 338 (s. Volga and Sarpa, Russia).—MÜHLE, Orn. Griechenl., 1844, 147.—DEGLAND, Orn. Eur., ii, 1849, 353.—HEUGLIN, Syst. Ueb., 1856, 70 (Egypt and Nubia, resident).—LINDERMAYER, Vög. Griechenl., 1860, 180.—SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 32.—WRIGHT, Ibis, 1864, 153 (Malta); 1874, 238 (Salini, Malta).—ELWES and BUCKLEY, Ibis, 1870, 338 (Epirus).—HARTING, Handb. Brit. Birds, 1872, 168.—HUME, Stray Feath., i, 1873, 281 (Sind, India).—ADAM, Stray Feath., i, 1873, 403 (Sambhur Lake, India).—BLANFORD, East. Persia, ii, 1876, 294.—MILNE-EDWARDS and GRANDIDIER, Hist. Nat. Madag., Ois, 1882, pl. 649 (osteology).—SEEBOHM, Ibis, 1882, 231 (Volga delta).—Hist. Brit. Birds, iii, 1885, 260.—ALLÉON, Ornith., vol. ii, 1886, 424 (Drobudscha, breeding).—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 306.—OATES, ed. Hume's Nests and Eggs of Ind. Birds, iii, 1890, 305.—SHARPE, Ibis, 1891, 116 (Fao).
- [Sterna] hybrida* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 248.
- Hydrochelidon hybrida* BONAPARTE, Cat. Ucc. Eur., 1842, 77.—GRAY, List Birds Brit. Mus., Anseres, 1844, 180; Cat. Brit. Birds, 1863, 242.—BREHM, Naumannia, 1855, 295; Vogelf., 1855, 351.—TRISTRAM, Ibis, 1860, 82 (North African lakes).—FILIPPI, Viagg. Per., 1865, 352.—BLASIUS, Journ. für Ornith., 1866, 82 (monogr.).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 468.—LOCHE, Expl. Sci. Algér., Ois., 1867, 208.—DODERLEIN, Avif. Sicil., 1869, 253.—FRITSCH, Vög. Eur., 1870, 460, pl. 54, fig. 10.—SALVADORI, Faun. Ital., Ucc.: 1871, 283; Ucc. Borneo, 1872, 374 (Sarawak); Orn. Papuasia, etc., 1882, 427; Ucc. Ital., 1887, 279.—SWINHOE, Proc. Zool. Soc. Lond., 1871, 421 (Formosa).—HEUGLIN, Orn. N. O.-Afr., Bd. 2, pt. 2, 1873, 1449.—WALDEN, Trans. Zool. Soc. Lond., viii, 1874, 103 (Celebes).—IRBY, Orn. Str. Gibr., 1875, 211.—LEGGE, Ibis, 1875, 407 (Ceylon).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 640 (monogr.); 1877, 794 (Manila, Philippines; crit.); Bull. Soc. Zool. France, 1877, 201 (s. Spain); Voy. 'Challenger,' ii, pt. viii, 1881, 133 (Manila); ed. Yarrell's Brit. Birds, iii, 1884, 527; Man. Brit. Birds, 1889, 621; Ibis, 1891, 187 (Lake Léman, Switzerland); Cat. Birds Brit. Mus., xxv, 1896, 10, 456.—DRESSER, Birds Europe, viii, 1877, 315, pls. 568, 589.—DAVID and

- DUSTALET, Ois. Chine, 1877, 524.—TWEEDDALE, Proc. Zool. Soc. Lond., 1877, 551 (Manila).—LEGGE, Birds Ceylon, 1880, 996.—BOCAGE, Orn. Angola, 1881, 514.—GIGLIOLI, Ibis, 1881, 218 (Italian localities); Avif. Ital., 1886, 419 (not known to breed in Italy); 1° Resoc. Avif. Ital., 1889, 634; 2° Resoc., 1890, 653; 3° Resoc., 1891, 227.—SCULLY, Ibis, 1881, 594 (Gilgit, n. India).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 184.—OATES, Birds Brit. Burma, ii, 1883, 419.—TRISTRAM, Fauna and Flora Palestine, 1884, 136.—RADDE, Orn. Caucas., 1884, 487.—SHARPE, ed. Layard's Birds South Africa, 1884, 699.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 61; Journ. für Orn., 1897, 204, 216 (Kaiser Wilhelm Land, Papua).—NORTH, Nests and Eggs Australian Birds, 1889, 353, 402.—EVERETT, Birds Borneo, 1889, 210.—FEILDEN, Ibis, 1889, 502 (Barbados).—FRIVALDSKY, Av. Hung., 1891, 181.—MADARÁSZ, Ausstel. Ungar. Vogelf., 1891, 121.—FATIO and STUDEE, Cat. distrib. Ois. Suisse, 1892, 64, 65.—LILFORD, Col. Fig. Brit. Birds, pt. xxviii, 1894.—KOENIG, Journ. für Orn., 1893, 99 (Tunis; descr. eggs).—POGGE, Journ. für Orn., 1902, 388 (n. e. (China)).—WALTON, Ibis, 1903, 34 (Tientsin, China).—JESSE, Ibis, 1903, 166 (Lucknow, India; habits).—NEUMANN, Journ. für Orn., 1904, 326 (Hora Schale, Abyssinia).—HARTERT, Novit. Zool., xii, 1905, 199 (Alligator River, n. w. Australia).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 259 (Barbados).—MATHEWS, Birds Australia, ii, 1912, pl. [103] facing p. 323.
- [Hydrochelidon] hybrida* GRAY, Gen. Birds, iii, 1846, 660.
- [Hydrochelidon] hybrida* GRAY, Hand-list, iii, 1871, 121, no. 11071.—SHARPE; Hand-list, i, 1899, 133.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (Lake Halloula, Algeria; South Africa; Nellore, s. India; Luzon and Caguan, Philippines).
- Hydrochelidon hybridus* TACZANOWSKI, Journ. für Orn., 1873, 111 (e. Siberia).
- Pelodes hybrida* GURNEY, in Andersson's Damara-Land, 1872, 362.—OLPHE-GALLIARD, Contr. Faun. Orn. Eur. Occid., fasc. xi, 1886, 41.
- [Pelodes] hybrida* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 356.
- Sterna javanica* HORSFIELD, Trans. Linn. Soc., xiii, 1820, 198 (Java; type now in coll. Brit. Mus.).—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1825, 158.—GRAY and HARDWICKE, Illustr. Ind. Zool., i, 1832, pl. 70, fig. 1 (Cawnpore, India).—REICHENBACH, Natatores, Novit., 1850, pl. 270, fig. 2258.
- Sternula javanica* BOIE, Isis, 1844, 183.
- [Hydrochelidon] javanica* GRAY, Gen. Birds, iii, 1846, 660.
- [Hydrochelidon] javanica* GRAY, Hand-list, iii, 1871, 122, no. 11073.
- Hydrochelidon leucopareia javanica* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (Java, etc.).
- [Pelodes] javanica* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 356.
- Sterna delamotta* VIEILLLOT, Tabl. Encyc. Méth., i, 1820, 350 (Picardy).
- Hydrocecropis delamotta* BOIE, Isis, 1844, 179.
- Sternula delamotti* BOIE, Isis, 1844, 183 (Cape Bonin, w. Africa).
- Viralva indica* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 169 (India; founded on the *Tehary Tern*, Latham, Gen. Hist., x, 103).
- [Hydrochelidon] indica* GRAY, Gen. Birds, iii, 1846, 660.
- Hydrochelidon indica* BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 290.—GRAY, Cat. Mam., etc., Nepal pres. Hodgson, 1863, 78.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 328 (Formosa).—JERDON, Birds India, iii, 1864, 837.—HUME and HENDERSON, Lahore to Yarkand, 1873, 301 (Kashmir).—HUME, Nests and Eggs Ind. Birds, 1875, 648.—BLYTH and WALDEN, Birds Burma, 1875, 163.
- [Hydrochelidon] indica* BONAPARTE, Compt. Rend., xlii, 1856, 773.—GRAY, Hand-list, iii, 1871, 121, no. 11072.
- Hydrochelidon leucopareia indica* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (n. India).

- [*Pelodes*] *indica* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 356.
- Sterna leucoptera* [lapsus for *S. leucopareia*] LESSON, Traité d'Orn., 1831, 622 (Cape Good Hope).—BUCKLEY, Ibis, 1874, 391 (Transvaal).
- Sterna similis* GRAY, in Hardw. Illustr. Ind. Zool., i, 1832, pl. 70, fig. 2 (Cawnpore, India; type now in coll. Brit. Mus.).—REICHENBACH, Natatores, Novit., viii, 1850, pl. 271, fig. 2261.
- Hydrocecropis similis* BOIE, Isis, 1844, 179.
- H[ydrochelidon] similis* GRAY, Gen. Birds, iii, 1846, 660.
- Hydrochelidon fluviatilis* GOULD, Proc. Zool. Soc. Lond., 1842 (published Feb., 1843), 140 (interior of New South Wales, coll. J. Gould); Birds Australia, vii, 1848, pl. 31 and text.—STURT, Exped. Centr. Austral., ii, 1849, App., p. 58.—REICHENBACH, Vög. Neuhol., 1850, 347.—PELZELN, Reis. 'Novara', Vög., 1855, 155.—RAMSAY, Proc. Zool. Soc. Lond., 1877, 348 (Richmond, Fitzroy, and Mary rivers and Rockingham Bay, Queensland).
- H[ydrochelidon] fluviatilis* GRAY, Gen. Birds, iii, 1846, 660.
- [*Hydrochelidon*] *fluviatilis* GRAY, Hand-list, iii, 1871, 122, no. 11075.
- Hydrochelidon leucopareia fluviatilis* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (e. and s. Australia).
- Hydrocecropis leucogenys* BOIE, Isis, 1844, 179.
- Hydrochelidon leucogenys* BREHM, Naumannia, 1855, 295; Vogelf., 1855, 350.
- Hydrochelidon marginata* BLYTH, Journ. Asiat. Soc. Bengal, xv, 1846, 376 (Hoogly, India).
- Hydrochelidon meridionalis* BREHM, Vogelf., 1855, 351.
- Hydrochelidon nilotica* BREHM, Naumannia, 1855, 295; Vogelf., 1855, 351.
- [*Hydrochelidon*] *delalandii* BONAPARTE, Compt. Rend., xlii, 1856, 773 ("*leucopareia* ex Cap. B. Spei, Mus. Par.").—GRAY, Hand-list, iii, 1871, 122, no. 11076.
- Hydrochelidon leucopareia delalandii* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (s. Africa).
- Sterna innotata* BEAVAN, Ibis, 1868, 404 (Thatong Creek, India).
- [*Sterna*] *innotata* GRAY, Hand-list, iii, 1871, 119, no. 11043.
- Sterna melanogastra* (not *S. melanogaster* Temminck, 1827) SALVADORI, Ucc. Borneo, 1874, 377.—ST. JOHN, Ibis, 1889, 180 (Quetta).—VORDERMAN, Nat. Tijdschr. Nederl. Ind., xlv, 1884, 207 (Java); xlix, 1889, 420 (Sumatra).
- Sterna macroura* (not *S. macrura* Naumann, 1819) SENTENIS, Journ. für Orn., 1877, 68 (Dobrukscha, breeding).
- Hydrochelidon nigra* (not *Sterna nigra* Linnaeus) BIDDULPH, Ibis, 1881, 102 (Gilgit, India; see Scully, Ibis, 1881, 594).
- Hydrochelidon leucopareia leggei* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (Ceylon).
- Hydrochelidon leucopareia rogersi* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321, 323 (n. and n. w. Australia).
- Hydrochelidon leucopareia swinhoei* MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 321 (China).

HYDROCHELIDON NIGRA SURINAMENSIS (Gmelin).

BLACK TERN.

Similar to *H. n. nigra*,^a but under parts much darker (black or grayish black, instead of gray).

Adults in summer (sexes alike).—Head, neck, and under parts, except under tail-coverts and anal region, uniform sooty black or

^a See p. 527.

grayish black (blackish fuscous or fuscous-black to chestnut black, varying, rarely, to deep purple-gray); under tail-coverts and anal region immaculate white; back and scapulars, rump, upper tail-coverts, tail, and wings deep neutral gray or purple-gray, the wings somewhat lighter (neutral gray); edge of wing, from body to carpo-metacarpal joint, white; axillars and under wing-coverts light neutral gray; bill black, the rictus purplish red (in life); interior of mouth lavender pink (in life); iris dark brown; legs and feet dusky livid purplish (in life).

Adults in winter.—Head, neck, and under parts white, the orbital and auricular regions dusky, the crown and occiput dark grayish, the feathers margined with paler; upper parts (except as described) as in summer.

Young.—Similar to winter adults, but scapulars, interscapulars, and tertials tipped with light buffy brownish, anterior lesser wing-coverts dusky, crown, occiput, and nape dusky, and sides and flanks washed or tinged with gray.

Downy young.—Upper parts light sayal brown, snuff brown, or verona brown, the rump with large irregular spots of blackish, the back and occiput usually with similar but much smaller markings; under parts paler brown becoming much paler (sometimes dull whitish) on chest; sides of head, including lores (sometimes also anterior portion of forehead, sometimes only the loreal and orbital regions) dull whitish or very pale brownish.

Adult male.—Wing, 192–213 (203.2); tail, 73–87.5 (79.8); exposed culmen, 26–29.5 (27); tarsus, 14.5–16 (15.4); middle toe, 15–16 (15.6).^a

Adult female.—Wing, 191–215 (199.6); tail, 73.5–82 (77.8); exposed culmen, 25.5–27 (26.2); tarsus, 14–16.5 (15.6); middle toe, 14.5–16.5 (15.5).^a

^a Ten specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Europe (5) and northern Africa (1) (<i>H. n. nigra</i>)	207.7	79.8	26.4	15.8	15.4
One adult male from Virginia (Isaacs, July 20).....	197	73	29.5	14.5	15.5
Eight adult males from Mississippi Valley.....	203.9	80.2	26.7	15.6	15.6
One adult male from California.....	203.5	82.5	27.5	15	15.5
FEMALES.					
Four adult females from Europe (<i>H. n. nigra</i>).....	202.7	81.6	27.7	15.7	15.6
One adult female from Pennsylvania (Carlisle, May 24).....	200	77	27	15	15
Seven adult females from Mississippi Valley.....	199.7	79	26.4	15.9	15.8
Two adult females from California.....	202	75.7	25.2	14.2	14.7

Breeding in interior and western districts of United States and Canada, northward to southwestern British Columbia, Mackenzie (Great Slave Lake) and southern Keewatin, eastward to eastern Ontario (Lansdowne; Kingston; near Toronto; Point Pelee) and western Pennsylvania (Cedar Point, Erie County), southward to southern California (Riverside County), Nevada, Utah, Colorado, Kansas, northern Missouri, northern Illinois, and northern Ohio; migrating southward over Mexico and Central America to Dutch Guiana (Surinam), Peru (Callao Bay), and Chile; occasional during fall migration along or near Atlantic coast, from Nova Scotia, Prince Edward Island, and Maine southward, and in West Indies (Cuba; Jamaica; Porto Rico) and Bermudas; accidental (?) in Yukon Valley, Alaska (Fort Yukon).

[*Sterna*] *surinamensis* Gmelin, Syst. Nat., i, pt. ii, 1789, 604 (Surinam; based on *l'Hirondelle de Mer: la gran espèce* Fermin, Descr. Surinam, ii, 1769, 187; *Surinam Tern* Latham, Gen. Synop. Birds, iii, pt. 2, 1785, 352).—LATHAM, Index Orn., ii, 1790, 804.

Sterna surinamensis Vieillot, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 177.

Hydrochelidon surinamensis SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 20.—GRINNELL, Pacific Coast Avif., no. 3, 1902, 14 (California range).—SALVIN and GODMAN, Biol. Centr.-Am., Aves., iii, 1903, 398.—CARRIKER, Ann. Carnegie Mus., vi, 1910, 414 (Costa Rica).

[*Hydrochelidon*] *surinamensis* BONAPARTE, Compt. Rend., xlii, 1856, 773.—GRAY, Hand-list, iii, 1871, 122, no. 11074.—SHARPE, Hand-list, i, 1899, 134.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53.

Hydrochelidon lariformis surinamensis RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880 (Cat. N. Am. Birds), 208; Nom. N. Am. Birds, 1881, no. 693.

Hydrochelidon nigra surinamensis STEJNEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 40.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 77; 3rd ed., 1910, p. 47.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 318.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 179 (Laguna de San Baltazar and Laguna de Chapulco, Puebla).—NELSON, Rep. Nat. Hist. Coll. Alaska, 1887, 60 (Fort Yukon, breeding).—CORY, Auk, v, 1888, 79 (West Indian localities and references); Birds West Ind., 1889, 280; Cat. West Ind. Birds, 1892, 83 (Cuba; Jamaica; Porto Rico).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 470 (Manitoba, breeding; habits; etc.).—HITCHCOCK, Auk, ix, 1892, 71 (Prince Edward Island, Sept. 13, 1887).—RHODES, Proc. Ac. Nat. Sci. Phila., 1892, 101 (Corpus Christi, Texas).—CLARKE, Auk, xiv, 1897, 411 (Lansdowne and Kingston, Ontario, breeding).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 26 (San Jose del Cabo, Lower California, Sept. 6, 17).—TAVERNER and SWALES, Wilson Bull., no. 59, 1907, 51 (Point Pelee, Ontario, common summer resident).—PREBLE, North Am. Fauna, no. 27, 1908, 274 (breeding n. to Great Slave Lake).—KERMODE, Provincial Mus., 1909, 25 (Sumas, Okanagan Lake, Burrard Inlet, Fraser River, and interior Brit. Columbia).—JONES, Wilson Bull., xxi, 1909, 71 (Cedar Point, Erie Co. Pennsylvania, breeding).—PHILIPP, Auk, xxvii, 1910, 313 (Pamlico Sound, North Carolina, 2 specs., June 25).—FLEMING, Auk, xxx, 1913, 225 (near Toronto, Ontario, breeding).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 25 (California: breeding locally s. to Riverside Co.).—WETMORE, Bull. 335, U. S. Dept. Agric., 1916, 46 (Porto Rico, 1 record).

- Hydrochelidon* *nigra surinamensis* RIDGWAY, Man. N. Am. Birds, 1887, 47.
Hydrochelidon nigra surinamensis ZELEDÓN, Anal. Mus. Nac. O. R., i, 1888, 133 (Punta Arenas, Costa Rica).
[Pelodes] surinamensis HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 356 (Mexico).
Chlidonias nigra surinamensis RHOADS, Auk, xxix, April, 1912, 198, in text.
Sterna plumbea WILSON, Am. Orn., vii, 1813, 83, pl. 60, fig. 3 (Schuylkill River, Pennsylvania;=young).—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 174.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 415, footnote (crit.).—JARDINE, ed. Wilson's Am. Orn., ii, 1832, 374.
Anous plumbea STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1825, 142.
Hydrochelidon plumbea BOIE, Isis, 1844, 184.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 864; Ann. Lyc. N. Y., vii, 1862, 479 (Lion Hill, Panama); viii, 1867, 479 (vicinity New York City).—BAIRD, Cat. N. Am. Birds, 1859, no. 695.—GUNDLACH, Journ. für Orn., 1862, 93 (Cuba; crit.).—BLAKISTON, Ibis, 1862, 10 (Saskatchewan).—COUES and PRENTISS, An. Rep. Smithsonian Inst. for 1861 (1862), 176 (District of Columbia).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1864, 373 (Brit. Honduras).—SCLATER, Proc. Zool. Soc. Lond., 1864, 179 (City of Mexico).—PELZELN, Reis. 'Novara', Vög., 1865, 155 (Chile).—DRESSER, Ibis, 1866, 45 (s. Texas).—SNOW, Birds Kansas, 1873, 12.—WHEATON, Ohio Agric. Rep., 1860, no. 277 (Ohio).
Hydrochelidon plumbea GRAY, Gen. Birds, iii, 1846, 660.
[Hydrochelidon] plumbea GUNDLACH, Journ. für Orn., 1861, 346 (Cuba).
Hydrochelid [on] plumbea GUNDLACH, Journ. für Orn., 1871, 294 (Cuba).
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[Sterna] nigra BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [211].—MAXIMILIAN, Journ. für Orn., 1859, 258.—NEWTON (A. and E.), Handb. Jamaica, 1881, 117.
Hydrochelidon nigrum BONAPARTE, Geog. and Comp. List, 1838, 61.—GOSSE, Birds Jamaica, 1847, 437.
Hydrochelidon nigra CABANIS, Journ. für Orn., 1857, 232 (Cuba).—ALBRECHT, Journ. für Orn., 1862, 207 (Jamaica).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 642, part (monogr.).—MERRILL (J. C.), Proc. U. S. Nat. Mus., i, 1878, 172 (Fort Brown, Texas, summer).—DEANE, Bull. Nutt. Orn. Club, v, 1880, 63 (Grand Menan, Maine, 3 specs.; Aug., 1879).—BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 125 (New Hampshire and Massachusetts records).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 271 (Bermuda, 1 spec., Oct., 1876).
Sterna exilis TSCHUDI, Wiegmann's Archiv für Naturg., ix, pt. i, 1843, 389 (coast of Peru;=young).
[Sterna] exilis TSCHUDI, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 314 (Peru).
Sterna frenalata (not of Gambel, 1848) SALVIN, Ibis, 1860, 278 (Coban, Guatemala; see Salvin, Ibis, 1866, 205).
[Sterna] fassipes (not Linnæus, 1758) LATHAM, Index Orn., ii, 1790, 810, part (America).
Sterna fassipes TURNBULL, Birds E. Penn. and N. J., 1869, 39.
[Sterna] fassipes RIDGWAY, Ann. Lyc. N. Y., x, 1874, 392 (Illinois).

Hydrochelidon fissipes COUES, Proc. Ac. Nat. Sci. Phila., 1862, 554 (monogr.); 1866, 99 (Colorado River, Arizona); 1871, 46 (Fort Macon, North Carolina, in migration); Ibis, 1864, 391 (Southern Water Cay, Brit. Honduras); Check List, 1873, no. 575.—SALVIN, Ibis, 1866, 205 (Coban, Guatemala).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City); Mem. Bost. Soc. N. H., ii, 1874, 318 (Mazatlan, Sinaloa, winter); Bull. U. S. Nat. Mus., no. 4, 1876, 52 (San Mateo, Oaxaca).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 307 (Fort Yukon, Alaska, breeding).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 573 (monogr.).—GUNDLACH, Journ. für Orn., 1874, 314 (Porto Rico); 1875, 393 (Cuba); 1878, 163, 191 (Porto Rico).—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 13 (marshes of Great Salt Lake, Utah, breeding).—BREWSTER, Bull. Nutt. Orn. Club, iii, 1878, 190 (Nantucket Island, Massachusetts, Aug., 1878, numerous).—ZELEDÓN, Cat. Aves de Costa Rica, 1882, 36.

[*Hydrochelidon*] *fissipes* COUES, Key N. Am. Birds, 1872, 323.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.

[*Hydrochelidon lariformis*] β . (American references.) COUES, Birds Northwest, 1874, 705 (monogr.; not *Rallus lariformis* Linnaeus, 1758).

Hydrochelidon lariformis HENSHAW, Zool. Expl. W. of 100th Merid., 1875, 487.—LEBARON, Forest and Stream, 1876, 372 (Ipswich Bay, Massachusetts, Aug. 25, 1875).—STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 27 (Mita Point, Sinaloa).—ROBERTS, Bull. Nutt. Orn. Club, ii, 1877, 34–36 (near Minneapolis, Minnesota; breeding habits).—RIDGWAY, Orn. Fortieth Parallel, 1877, 640 (Sacramento, California, breeding).—COUES, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 656 (Pembina and Souris River, North Dakota, breeding; habits); Check List, 2d ed., 1882, no. 806.—BROWN (N. C.), Bull. Nutt. Orn. Club, iv, 1879, 108 (Scarborough, Maine, in fall).

[*Hydrochelidon*] *lariformis* NELSON, Bull. Essex Inst., viii, 1876, 149, 150 (n. e. Illinois, abundant summer resident).—COUES, Key N. Am. Birds, 2d ed. 1884, 770.

[*Hydrochelidon*] *lariformis* CORY, List Birds West Ind., revised ed., 1886, 34.

Sterna melanops RAFINESQUE, Kentucky Gazette, i, no. 8, Feb. 21, 1822, p. 3, col. 5, in text (near Harrodsburg, Kentucky).

Chlidonias melanops RAFINESQUE, Kentucky Gazette, i, no. 8, Feb. 21, 1822, p. 3, col. 5, in text.

HYDROCHELIDON LEUCOPTERA (Temminck).^a

WHITE-WINGED BLACK TERN.

Much like *H. nigra surinamensis*, but lower rump and upper tail-coverts white (tail also white or very pale gray), and adults with more anterior lesser wing-coverts white and feet vermilion or coral red.

Adults in summer (sexes alike).—Head, neck, and under parts, except under tail-coverts and anal region, uniform sooty blackish (varying from brownish sooty black to dusky purple-gray); back,

^a The far eastern birds of this species have been separated subspecifically.—*Sterna grisea* Horsfield, Trans. Linn. Soc., xiii, 1820, 190 (Java; type now in coll. Brit. Mus.).—*Hydrochelidon grisea* Boie, Isis, 1844, 184.—*Hydrochelidon leucoptera grisea* Mathews, Birds Australia, ii, pt. 3, Sept. 20, 1912, 312 (China to northern Australia; New Zealand?); Thayer and Bangs, Auk, xxxiii, 1916, 44 (Saghalin Island; crit.). Messrs. Thayer and Bangs, however, in their series from Saghalin Island, were unable to appreciate any differences from European birds. The small series examined by me is not sufficient to justify expressing an opinion in the case.

scapulars, and upper part of rump dusky gray (dark quaker drab); wings neutral gray, becoming paler anteriorly and quite white on anterior lesser coverts and outer margin of wing; lower rump and upper tail-coverts immaculate white, sometimes pale gray; tail grayish white or very pale gray, more decidedly grayish terminally; anal region and under tail-coverts immaculate pure white; axillars and under wing-coverts deep gray; bill dusky (dull reddish in life); iris dark brown; legs and feet coral red or orange-red (in life).

Adults in winter.—"In the latter part of July, when the molt begins (in Europe), the bird is curiously parti-colored, the new feathers of the head, neck, and under parts being white and those of the back gray (paler than in *Hydrochelidon nigra*). . . . Later, the under parts, including the under wing-coverts and axillaries, become white, the crown of the head and the nape being merely mottled with black; but by the following April the black color has reappeared to a considerable extent, especially on the axillaries."^a

Immature.—"In birds which are not mature, though capable of breeding, the black of the under parts has a brownish tinge and the tail-feathers are pearl-gray, especially toward the tips."^a

Young.—"Posterior portion of the crown, a patch on the side of the head, and one on the hind-neck dark sooty gray, the feathers with lighter margins, the patch on the hind-neck with brownish markings; rest of the head, neck, and entire under parts pure white; back and scapulars blue-gray, broadly tipped with blackish gray; wings as in the adult in winter, but the wing-coverts tipped with light reddish brown; rump and upper tail-coverts white; tail light French gray, becoming darker toward the tip."^b

Downy young.—"Upper parts warm reddish buff, boldly marked with black on the crown, nape, back, wings, and rump; under parts grayish buff with a sooty tinge, marked with sooty gray on the upper throat; space round the eye nearly white."^b

Adult male.—Wing, 196.5–209 (201.6); tail, 65.5–76 (70); exposed culmen, 23–26.5 (24.3); tarsus, 16–20 (18.2); middle toe, 15.5–19 (16.8).^c

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 9.

^b Dresser, Birds of Europe.

^c Eight specimens. No adult females measured.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Three adult males from Europe.....	200.8	68.7	22.8	18.5	17
Two adult males from British East Africa (August 9).....	202.2	68	24.2	18	16.5
Two adult males from northern China (Tientsin) (<i>H. l. grisea</i>).....	203.5	70.2	25.7	17	16.5
One adult male from Philippine Islands (Mindanao, June) (<i>H. l. grisea</i>).....	197	76	26	20	17.5

Breeding in central and southern Europe and eastward to China (but not in Japan); migrating southward over whole of Africa and southern Asia, Malay Archipelago, etc., to Australia and New Zealand; accidental in Wisconsin (Lake Koshkonong, July 5, 1873)^a and Barbados, Lesser Antilles (Oct. 24, 1888).

(?) [*Sterna fassipes* LINNAEUS, Syst. Nat., ed. 12, i, 1766, 228 (s. Europe; based essentially on *Sterna nigra* Brisson, Orn., vi, 1760, 211, pl. 20, fig. 1).—GMELIN, Syst. Nat., i, pt. ii, 1789, 610.

(?) *Sterna fassipes* MÜLLER, Syst. Nat., Suppl., 1776, 354.

Sterna fassipes PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 338 (excl. syn.).—ATRES, Ibis, 1871, 267 (Transvaal).

Hydrochelidon fassipes BOIE, Isis, 1844, 184.—TACZANOWSKI, Bull. Soc. Zool. France, 1876, 262 (s. Siberia).—RADDE, Orn. Caucas., 1884, 488.—BRUSINA, Orn. Croatia, 1889, 92.

(?) [*Sterna cinerea* GMELIN, Syst. Nat., i, pt. ii, 1789, 607 (Italy; based on *L'Hirondelle de mer, cendrée* Brisson, Orn., vi, 1760, 210=young).—LATHAM, Index Orn., ii, 1790, 808.

(?) *Sterna cinerea* VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 167.

Sterna leucoptera TEMMINCK, Man. d'Orn., 1815, 483 (shores of Mediterranean Sea; Swiss lakes, etc.); 2d ed., 1820, 747.—MEISNER and SCHINZ, Vög. Schweiz, 1815, 264.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 169; Tabl. Enc. Méth., i, 1820, 348; Faun. Franç., Ois., 1828, 397, pl. 160, fig. 2.—BREHM, Beitr. Vögelk., iii, 1822, 676.—WERNER, Atlas, Palmipèdes, 1828, pl. 12.—LESSON, Traité d'Orn., 1831, 622.—SAVI, Orn. Tosc., iii, 1831, 83.—GOULD, Birds Europe, v, 1837, pl. 423 and text.—NAUMANN, Vög. Deutschl., x, 1840, 214, pl. 257.—SCHINZ, Europ. Faun., 1840, 375.—SCHLEGEL, Rev. Crit., 1844, p. cxxxi.—MÜHLE, Orn. Griechenl., 1844, 147.—YARBELL, Brit. Birds, 1st Suppl., 1845, 527; Brit. Birds, 2d ed., iii, 1845, 527.—REICHENBACH, Natatores, 1848, pl. 20, figs. 803-806.—DEGLAND, Ois. Eur., ii, 1849, 351.—THOMPSON, Birds Ireland, iii, 1851, 307.—BALDAMUS, Naumannia, 1851, Heft iv, 47 (Hungary, breeding).—BRANDT, in Lehmann's Reis. Buchara, 1852, 330 (Trans-Ural steppe).—KJÆRØLLING, Danm. Fugle, 1852, 332, pl. 60B; Suppl., 1854, pl. 21, figs. 3, 4.—HEUGLIN, Syst. Ueb., 1856, 71 (Egypt; Nubia).—MEYER, Brit. Birds, vii, 1857, 105, pl. 296.—LINDERMAYER, Vög. Griechenl., 1860, 181.—JAECKEL, Journ. für Orn., 1860, 300 (crit.).—POWYS, Ibis, 1861, 357 (Corfu).—WRIGHT, Ibis, 1864, 153 (Malta).—DYBOWSKI, Journ. für Orn., 1868, 338 (Dauria).—ELWES and BUCKLEY, Ibis, 1870, 338 (Epirus).—HOMMEYER, Journ. für Orn., 1870, 439 (s. Siberia).—HARTING, Handb. Brit. Birds, 1872, 169.—BUCKLEY, Ibis, 1874, 391 (Transvaal).—SEEBOHM, Ibis, 1882, 231 (Kirghis Steppes); Hist. Brit. Birds, iii, 1885, 257.—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 316.—HARTLAUB, Abh. Nat. Ver. Bremen, xii, Heft ii, 1892, 334 (Tientsin, China).

Sterna leucoptera KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 248.

Hydrochelidon leucoptera BOIE, Isis, 1822, 563.—BREHM, Vög. Deutschl., 1831, 796; Naumannia, 1855, 295; Vogelf., 1855, 350.—BONAPARTE, Cat. Ucc. Eur., 1842, 77.—REICHENBACH, Syst. Nat., 1850, pl. 4; Av. Syst. Nat., Longipennes, 1852, p. v.—MACGILLIVRAY, Brit. Birds, v, 1852, 661.—SCHRENCK,

^a There is also a record of "six of these birds seen on a small lake near the source of the western branch of Swan River [Manitoba] on September 1, 1881;" but as no specimens were obtained the record can not be considered a valid one. (See Seton, Auk, iii, 1886, 148.)

- Reis. Amurl., 1859, 511.—TRISTRAM, Ibis, 1860, 82 (e. and w. Sahara Desert); Fauna and Flora Palestine, 1884, 137.—RADDE, Reis. Sibir., Vög., 1863, 389.—SALVADORI, Ucc. Sardin., 1864, 123; Ucc. Ital., 1887, 280.—FILIPPI, Viagg. Pers., 1865, 352.—FRITSCH, Vög. Eur., 1870, 461, pl. 54, fig. 7.—SAUNDERS, Ibis, 1871, 399 (s. Spain); 1891, 187 (Lake Léman, Switzerland); Proc. Zool. Soc. Lond., 1876, 641 (monogr.); Bull. Soc. Zool. France, 1877, 201 (s. e. Spain); ed. Yarrell's Brit. Birds, iii, 1884, 522; Man. Brit. Birds, 1889, 619; Cat. Birds Brit. Mus., xxv, 1896, 6, 456.—HUTTON, Cat. New Zealand Birds, 1871, 43.—BROOKE, Ibis, 1873, 346 (Sardinia).—BULLER, Birds New Zealand, 1873, 287; 2d ed., ii, 1888, 76; Man. Birds New Zealand, 1882, 81.—COUES, Check List, 1873, App., p. 137, no. 575 bis; 2d ed., 1882, no. 807.—BREWER, Am. Nat., viii, 1874, 188 (Lake Koshkonong, Wisconsin, 1 spec., July 5, 1873).—FINSCH, Journ. für Orn., 1874, 206 (New Zealand).—DRESSER, Birds Europe, viii, 1875, 321, pls. 590, 591.—IRBY, Orn. Straits Gibralt., 1875, 211.—DAVID and OUSTALET, Ois. Chine, 1877, 524.—HUME, Stray Feath., viii, 1879, 115, 495 ((Andaman Islands)).—LEGGE, Birds Ceylon, 1880, 1000.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 208; Nom. N. Am. Birds, 1881, no. 694.—GIGLIOLI, Ibis, 1881, 218 (Florence, Italy, May, rare); Avif. Ital., 1886, 419; 1° Resoc. Avif. Ital. 1889, 635; 2° Resoc., 1890, 653; 3° Resoc., 1891, 512.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 185.—OATES, Birds Brit. Burma, ii, 1883, 420.—SHARPE, ed. Layard's Birds South Africa, 1884, 700; Bull. Brit. Orn. Club, no. xi, 1893, p. v (Suakim).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 323.—WHITEHEAD, Ibis, 1885, 47 (Corsica, May 28).—TORRE and TSCHUSI, Ornith., vol. i, 1885, 564 (Austria-Hungary).—(?) SETON, Auk, iii, 1886, 148 (Swan River, Manitoba, six "seen" Sept. 1, 1881).—TACZANOWSKI, Ornith., vol. 2, 1886, 506 (Poland, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 78; 3d ed., 1910, p. 47.—SYMONDS, Ibis, 1887, 335 (Orange Free State).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 61; Vög. Deutsch-O.-Afr., 1894, 21 (Tanganyika).—FIELDEN, Ibis, 1889, 502 (Barbados, Lesser Antilles, 1 spec., Oct. 24, 1888).—EVERETT, Birds Borneo, 1889, 210.—RADDE and WALTER, Ornith., vol. v, 1889, 127 (Trans-Caspia).—PAYTON, Ibis, 1891, 465 (Mogador).—MADARÁSZ, Ausst. Ungar. Vogelf., 1891, 121.—FRIVALDSKY, Av. Hung., 1891, 181.—FATIO and STUDER, Cat. distr. Ois. Suisse, 1892, 64, 65.—CORY, Birds West Ind., 1889, 298 (Barbados); Cat. West Ind. Birds, 1892, 83, 136 (Barbados).—KOENIG, Journ. für Orn., 1893, 98 (Tunis).—LILFORD, Col. Figs. Brit. Birds, pt. xxix, 1894.—POGGE, Journ. für Orn., 1902, 388 (n. e. China).—HEINROTH, Journ. für Orn., 1902, 398 (Bismarck Archipelago).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 228 (Lake Kauka, n. e. Siberia, breeding).—CLARK (A. H.), Proc. Bost. Soc. N. H., xxxii, 1905, 259 (Barbados).—MATHEWS, Birds Australia, ii, 1912, pl. [102] facing p. 312.
- [Hydrochelidon] leucoptera* COUES, Key N. Am. Birds, 2d ed., 1884, 770.—RIDGWAY, Man. N. Am. Birds, 1887, 47.
- [Hydrochelidon] leucoptera* KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, 196.—SHARPE, Hand-list, i, 1899, 133.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (Baltic Sea: Damietta, Egypt; Lake Shirwa, Nyassaland; Potchefstroom, Transvaal; South Australia).
- ?*Hydrochelidon leucoptera* FINSCH, Journ. für Orn., 1872, 254 (New Zealand; crit.).
- Hydrochelidon leucoptera leucoptera* MATHEWS, List of the Birds of Australia, 1913, 44.
- Vireo leucoptera* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 170.
- Hydrochelidon leucoptera* BONAPARTE, Geog. and Comp. List, 1838, 61.

Sterna grisea HORSFIELD, Trans. Linn. Soc., xiii, 1821, 199 (Java; type in coll. Brit. Mus.).—STEPHENS, in Shaw's Gen. Zool., xiii, pt. 1, 1825, 159.

Hydrochelidon grisea BOIE, Isis, 1844, 184.—GRAY, List Birds Brit. Mus., Anseres, 1844, 180.

H[ydrochelidon] grisea GRAY, Gen. Birds, iii, 1846, 660.

Hydrochelidon leucoptera grisea MATHEWS, Birds Australia, ii, pt. 3, Sept. 20, 1912, 312 (China to n. Australia; New Zealand); List of the Birds of Australia, 1913, 44.

Hydrochelidon leucourus SEYFFERTITZ and BREHM, Isis, 1833, 985.

Hydrochelidon nigra (not *Sterna nigra* Linnæus) GRAY, List Birds Brit. Mus., Anseres, 1844, 180; Cat. Brit. Birds, 1863, 243.—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 291.—JERDON, Birds India, iii, 1864, App., 875.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 466.—LOCHE, Expl. Sci. Algér., Ois., 1867, 207.—SALVADORI, Faun. Ital., Ucc., 1871, 274; Ucc. Borneo, 1874, 372.—SHELLEY, Birds Egypt, 1872, 301; Ibis, 1888, 306 (Lamu, e. Africa).—GURNEY, in Andersson's Birds Damara-Land, 1872, 363.—HEUGLIN, Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1447.—COUES, Birds Northwest, 1874, 708.—WALDEN, Trans. Zool. Soc. Lond., viii, 1874, 103 (Celebes).—PRJEVALSKY, Rowley's Orn. Misc., iii, 1878, 145 (Tsaideimin Lake and basin of Lake Hauka, Mongolia, breeding).—FINSCH, Verh. z.-b. Ges. Wien, xxix, 1879, 280 (Chinese Altai, 5,000 ft.).—BOLAU, Journ. für Orn., 1882, 342 (Dauria).—BLASIUS (W.), Verh. z.-b. Ges. Wien, xxxiii, 1883, 73 (s. e. Borneo); Ornith., 1888, 633 (Great Sanghir Island).—VORDERMAN, Nat. Tijdschr. Nederl. Ind., ii, 1892, 413 (Java).

H[ydrochelidon] nigra GRAY, Gen. Birds, iii, 1846, 660.

[Hydrochelidon] nigra BONAPARTE, Compt. Rend., xlii, 1856, 773.—GRAY, Hand-List, iii, 1871, 121, no. 11070.

Sterna nigra SCHLEGEL, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 31.—HOLDWORTH, Proc. Zool. Soc. Lond., 1872, 481 (Ceylon).—LEGGE, Journ. Asiat. Soc. Bengal, 1874, 58 (Ceylon).—BLANFORD, East. Persia, ii, 1876, 290.—BLASIUS and NEHRKORN, Verh. z.-b. Ges. Wien, xxxii, 1882, 432 (Amboina; see Ibis, 1883, 212).

Hydrochelidon nigra SEVERTSOV, Turkestan. Jevotnie, 1873, 70 (Turkestan, up to 10,000 ft.).

Hydrochelidon hybridus (not *Sterna hybrida* Pallas) TACZANOWSKI, Journ. für Orn., 1873, 111; 1874, 337 (Dauria; see Bull. Soc. Zool. France, 1876, 262).

Hydrochelidon subleucoptera BREHM, Vogelf., 1855, 350 (n. e. Africa, rare in s. Europe).

Hydr[ochelidon] subleucoptera BREHM, Naumannia, 1855, 295.

Hydrochelidon javanica (not *Sterna javanica* Horsfield) SWINHOE, Ibis, 1860, 66; 1861, 345 (n. China).

Genus PHÆTUSA Wagler.

Phætusa WAGLER, Isis, xxv, 1832, 1224. (Type, by original designation and monotypy, *Sterna magnirostris* Lichtenstein = *S. chloripoda* Vieillot.)

Phætusa (emendation) AGASSIZ, Nomencl. Zool., Index, 1846, 283.

Phætusa (emendation) BONAPARTE, Compt. Rend., xlii, 1856, 772.

Thalassites SWAINSON, Classif. Birds, ii, 1837, 373. (Type, by monotypy, *Sterna magnirostris* Lichtenstein = *S. chloripoda* Vieillot.)

Large Sternidæ (wing 266–312 mm.) with nostril far anterior to latero-frontal antia, anterior line of frontal feathering not indented at base of culmen, and tail much less than half as long as wing, forked for only about one-fourth its length.

Bill longer than head, large and stout, the exposed culmen more than one-fifth as long as wing; gonys much shorter than mandibular rami, straight or very nearly so, its basal angle not prominent; depth of bill at base equal to nearly one-fourth the length of commissure; nostril elliptical, narrower posteriorly, separated from the nearest loreal feathering by a space much greater than length of nostril; anterior outline of feathering on head without indentation at base of culmen, where truncated or slightly convex, sloping thence downward and backward to the rictus, sometimes with a very small projecting angle (latero-frontal antia) on each side of base of culmen. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by nearly twice the distance from tips of the latter to bend of wing. Tail much less than half as long as wing, forked for about one-fourth its length; the lateral rectrices rather abruptly contracted, but not acuminate, terminally. Tarsus longer than middle toe without claw (but shorter than middle toe *with* claw); webs between anterior toes with anterior edge slightly incised.

Plumage and coloration.—Plumage distinctly blended only on pileum. Adults with pileum, nape and auricular region black (the feathers tipped with white in post-nuptial plumage), the rest of upper parts grayish brown or brownish gray, the distal wing-coverts and under parts white.

Range.—South America; accidental in Cuba. (Monotypic.)

PHÆTUSA CHLORIPODA (Vieillot).

LARGE-BILLED TERN.

Adults in breeding plumage (sexes alike).—Pileum, nape, and auricular region uniform black, this descending to anterior angle of eye and extending along median line of hindneck; back, scapulars, proximal wing-coverts, tertials, rump, upper tail-coverts, and tail plain deep neutral gray; distal smaller wing-coverts, secondaries, greater wing-coverts, lores (sometimes anterior margin of forehead, narrowly), and under parts immaculate white, the sides and flanks more or less strongly tinged with pale or pallid neutral gray, the sides of neck deeper gray; primary coverts and primaries dull black, the innermost primaries with inner webs more grayish and margined terminally with white; inner webs of primaries with an extensive white "wedge," especially the outermost; bill yellow, more or less tinged with grayish or horn color basally; legs and feet grayish dusky (said to be olive, with yellow webs, in life).

Adults in post-nuptial plumage?—Similar to breeding adults, but feathers of the black pileum tipped with grayish white.

Immature.—Essentially like adults but pileum light gray, deepening into black on auricular region and near anterior angle of eye; back, etc., pale gray (between light neutral gray and light mouse

gray); secondaries more extensively gray than in adults; white of distal wing-coverts tinged with gray and metacarpal region mostly gray; primary coverts and primaries duller or more brownish black, and bill duller yellow and more tinged with horn color or olive.

Young.—Similar to the immature plumage, but feathers of pileum broadly tipped with vinaceous-buff or pale ochraceous, and with mesial streaks of black; interscapulars and anterior scapulars (sometimes proximal wing-coverts also) more or less distinctly margined terminally with vinaceous-buff or pale avellaneous, the posterior scapulars very broadly tipped with the same, the tertials tipped or terminally margined with pale buff or buffy white; feathers of rump, upper tail-coverts, and tail tipped with dull vinaceous-buff or pale avellaneous; white of lores and blackish postocular area tinged or suffused with pale avellaneous.

Adult male.—Wing, 273–312 (299); tail, 103–118 (112); exposed culmen, 62–68.5 (65.3); tarsus, 23.5–26 (24.4); middle toe, 21.5–23 (22.1).^a

Adult female.—Wing, 266–296 (286.7); tail, 97–112 (106.1); exposed culmen, 57–67 (62.4); tarsus, 23–26 (24.2); middle toe, 21.5–22 (21.9).^a

Caribbean and Atlantic coasts and larger inland waters of South America, from Colombia (Punta Caiman and Trojas de Cataca, Santa Marta) through Venezuela (Rio Orinoco; Rio San Juan; Rio Manimo; Rio Mato; Cumaná; Caicará; Altagrácia; La Prición; Laguna de Valência; Margarita Island), British Guiana (Rupurumi River; Ourumee), Dutch Guiana, Cayenne, Brazil (Mexiana Island; Pará; Serra Grande and Conceição, Amazonas; Rio São Francisco; Rio Araguaya; Santa Catarina; São Paulo; Iguapé, São Paulo), Uruguay (Concepción), Paraguay (Rio Paraná; Tuyú; Colônia Risso; near

^a Eight specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from Colombia	298.7	113.3	67	24.5	22.5
Three adult males from Venezuela	295.7	109.3	62.5	24	21.7
One adult male from Amazon Valley	307	118	68	26	23
One adult male from Bolivia	302	110	66	23.5	21.5
FEMALES.					
One adult female from Colombia	289	112	66	24	22
Three adult females from Venezuela	280.7	102.7	61.2	23.7	21.8
One adult female from Amazon Valley	302	107	64.5	26	22
Two adult females from Bolivia	291.5	108.7	64	24.5	21.7
One adult female from Argentina	298	104	57.5	24	22

Puerto Braza), and Argentina (Barracas al Sud; Buenos Aires; San Vicente, Chaco; Puerto Ocampo; Rosário; Mar Chiquita, Córdoba; Estuario del Plata; Rio Paraná; Rio Uruguay); in the interior Bolivia (lower Rio Beni; Rio Surutú, Province del Sara; Bahio Negro) and eastern Peru (upper and lower Rio Ucayali; Rio Hualaga; Pebas); on Pacific side, Peru and Ecuador (Rio Guayaquil; Riobamba); island of Aruba; accidental in eastern Cuba (Laguna del Centeno, Nipe Bay, Prov. Oriente, May 28, 1910).

- (?) [*Sterna simplex* Gmelin, Syst. Nat., i, pt. ii, 1789, 606 (Cayenne; based on *Simple Tern* Latham, Gen. Synop. Birds, iii, pt. 2, 1785, 355).—LATHAM, Index Orn., ii, 1790, 805.
- (?) *Sterna simplex* Vieillot, Nouv. Dict. d' Hist. Nat., xxxii, 1819, 167.
- (?) [*Sterna simplex*] β LATHAM, Index Orn., ii, 1790, 806 (Syn., vi, 356).
- (?) *Thalva simplex* Stephens, Shaw's Gen. Zool., xiii, pt. 1, 1825, 172.
- Sterna chloripoda* Vieillot, Nouv. Dict. d' Hist. Nat., xxxii, 1819, 171 (Paraguay; based on *Hati cogote oscuro* Azara, Apunt. Parag., iii, 1802, 372); Tabl. Enc. Méth., i, 1820, 349.—HARTLAUB, Index Azara's Apunt., 1847, 26.—LÉOTAUD, Ois. Trinidad, 1886, 537.
- [*Thalasseus*] *chloripoda* Boie, Isis, 1844, 182.
- (?) *Sterna brevirostris* Vieillot, Nouv. Dict. d' Hist. Nat., xxxii, 1819, 166 (Paraguay; based on *Hati pico corto* Azara, Apunt. Parag., iii, 1802, 376); Tabl. Enc. Méth., i, 1820, 347.
- Sterna magnirostris* Lichtenstein, Verz. Doubl., 1823, 81 (Brazil; coll. Berlin Mus.).—Tschudi, Wiegmann's Archiv für Naturg., x, pt. i, 1844, 314 (Peru).—Cabanis, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 761.
- Sterna magnirostris* Spix, Av. Bras., ii, 1825, 81, pl. 104 (Rio São Francisco, Brazil).—Maximilian, Beitr. Naturg. Bras., iv, 1833, 861.—Tschudi, Fauna Peruana, Aves, 1846, 53, 305.—Hartlaub, Index Azara's Apunt., 1847, 26.—Reichenbach, Natatores, 1848, pl. 18, fig. 257.—Burmeister, Syst. Ueb. Th. Bras., iii, 1856, 450; Reise La Plata, ii, 1861, 519.—Schlegel, Mus. Pays-Bas, vi, no. 24 (Sternæ), 1864, 12.—Taylor, Ibis, 1864, 96 (Orinoco River, Venezuela).—Sclater and Salvin, Proc. Zool. Soc. Lond., 1867, 593, 979 (Mexiana Island, Brazil).—Pelzelin, Orn. Bras., 1870, 324.—Layard, Ibis, 1873, 396 (Para, Brazil).—Saunders, Proc. Zool. Soc. Lond., 1876, 643 (monogr.).—Durnford, Ibis, 1880, 412 (Rosario, Argentina).—Barrows, Auk, i, 1884, 316 (Concepcion, Uruguay, 1 pair, Sept. 9, 1880).—MacFarlane, Ibis, 1887, 209 (Guayaquil, w. Ecuador).—Taczanowski, Orn. du Pérou, iii, 1886, 438.—Berlepsch, Journ. für Orn., 1887, 126 (Paraguay).—Allen, Bull. Am. Mus. N. H., ii, 1889, 111 (lower Rio Beni, Bolivia, Aug.).
- [*Sterna*] *magnirostris* Pelzelin, Orn. Bras., 1870, 461.
- Phaetusa magnirostris* Wagler, Isis, 1832, 1224.
- Phaetusa magnirostris* Gray, List Gen. Birds, 1840, 79; Gen. Birds, iii, 1846, 659.
- Phaetusa magnirostris* Hellmayer, Novit. Zool., xv, 1908, 102 (Rio Araguaya, Brazil).—Holmberg, Segundo censo Argentina, i, 1898, 558.—Ramsden, Auk, xxix, 1912, 100 (Laguna del Centeno, Nipe Bay, Prov. Oriente, Cuba, May 28, 1910).—Bertoni, Faun. Parag., 1914, 38.
- Phaetusa magnirostris* Reichenbach, Av. Syst. Nat., Longipennes, 1852, 5.—Sclater and Salvin, Proc. Zool. Soc. Lond., 1873, 310 (lower Rio Ucayali, Rio Hualaga, and Pebas, e. Peru).—Berlepsch, Journ. für Orn., 1874, 278 (Santa Catarina, s. e. Brazil; synonymy; range; descr. young; crif.).—Durnford, Ibis, 1877, 200 (Buenos Aires).—Taczanowski and Berlepsch.

- Proc. Zool. Soc. Lond., 1885, 112 (Riobamba, Ecuador).—SCLATER and HUDSON, Argentine Orn., ii, 1889, 194.—SCLATER, Proc. Zool. Soc. Lond., 1891, 301 (in Zool. garden, London).—CHAPMAN, Bull. Am. Mus. N. H., vi, 1894, 84 (Trinidad).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 23 (Rupununi River and Ourumee, Brit. Guiana; Surinam; Mexiana Island; s. Brazil; Rio Parana; upper Rio Ucayali and Pebas, e. Peru; Guayaquil, w. Ecuador).—ROBINSON, Proc. U. S. Nat. Mus., xviii, 1896, 653 (Margarita Island, and Cumana, Venezuela).—KOENIGSWALD, Journ. für Orn., 1896, 396 (São Paulo, s. Brazil).—IHERING, Revista Mus. Paulista, iii, 1899, 443 (Iguape, São Paulo); iv, 1890, 293 (descr. eggs).—BERLEPSCH and HARTERT, Novit. Zool., ix, 1902, 132 (Altagracia, Caicara, and La Pricion, Orinoco River, Venezuela).—BEEBE, Zoologica, i, 1909, 74 (mouth of Rio San Juan, Venezuela).—CORY, Field Mus. N. H., Pub. 137, 1909, 194 (Aruba), 233 (Margarita Island).—HARTERT and VENTURI, Novit. Zool., xvi, 1909, 253 (Barracas al Sud, San Vicente, and Puerto Ocampo, Argentina; descr. eggs).—REISER, Denkschr. Mat.-Nat. Kl. Kaiserl. Ak. Wiss. Wien, lxxvi, 1910, 97 (localities in n. e. Brazil).—DABBENE, Orn. Argent., 1910, 210 (Mar Chiquita, Cordoba; San Vicente, Chaco; Estuario del Plata; Rio Parana; Rio Uruguay).—GRANT (C. H. B.), Ibis, 1911, 471 (Tayru, Colonia Riiso, and near Puerta Braga, Paraguay, Aug.-Oct., breeding; habits; descr. nest and eggs).
- [*Phæthus*] *magnirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.—SHARPE, Hand-list, i, 1899, 134.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53.
- [*Phæthus*] *magnirostris* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 355.
- [*Phæthus*] *magnirostris* BONAPARTE, Compt. Rend., xlii, 1856, 772.
- Thalasseus magnirostris* SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1866, 200 (lower Ucayali, e. Peru).
- Thalassites magnirostris* SWAINSON, Classif. Birds, ii, 1837, 372.
- Sylochelidon magnirostris* GRAY, List Birds Brit. Mus., Anseres, 1844, 175.—BLASIUS, Journ. für Orn., 1866, 82.
- Sterna speculifera* "Temm[inck]" LESSON, Traité d'Orn., 1831, 622 (Brazil; see Pucheran, Rev. et Mag. de Zool., ii, 1850, 544).
- S[terna] speculifera* GRAY, Gen. Birds, iii, 1846, 659.
- Sylochelidon speculifera* BOIE, Isis, 1844, 186.
- Sterna albifrons* PUCHERAN (not of Pallas, 1764), Rev. et Mag. de Zool., ii, 1850, 544 (coll. Paris Mus.; ex Cuvier, manuscript).

Genus ANOUS Stephens.

- Anous*^a STEPHENS, Shaw's Gen. Zool., xiii, pt. i, 1826, 139. (Type, as designated by Gray, 1840, *A. niger* Stephens=*Sterna stolidus* Linnæus.)
- Stolida* LESSON, Traité d'Orn., 1831, 620. (Type, by tautonymy, *Sterna stolidus* Linnæus.)
- Gavia* (not of Forster, 1788, nor Boie, 1822) SWAINSON, Classif. Birds, ii, 1837, 373. (Type, *G. leucocephala* Swainson=*Sterna stolidus* Linnæus.)
- Aganaphron* GLOGER, Hand- und Hilfsbuch, 1842, 463. (Type, *Sterna stolidus* Linnæus.)

Medium-sized Sternidæ (wing 244–292 mm.) of uniform dusky coloration (the forehead sometimes whitish), graduated and slightly forked tail, and without latero-frontal antiæ.

^a "Anous, silly, stupid. (Richmond.)

Bill about as long as head, the exposed culmen longer than middle toe with claw, its greatest depth equal to more than one-third the distance from anterior end of nostril to tip of maxilla; culmen straight for basal two-thirds (approximately), sometimes even faintly concave above nostrils, rather abruptly and strongly decurved for terminal third; gonys decidedly to much shorter than mandibular rami, nearly if not quite straight, prominent basally; nostril narrowly elliptical, longitudinal, separated from nearest loreal feathering by a space greater in extent than length of nostril; anterior outline of feathering of forehead and lores forming an angle on base of culmen (frontal antia), sloping thence backward and downward to rictus, without trace of projection on lateral base of maxilla (latero-frontal or loreal antia). Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by decidedly less than twice the distance from tips of the latter to bend of wing, the primaries rather broad terminally, with narrowly rounded tips. Tail more than half as long as wing, graduated and slightly forked, the lateral rectrices about two-thirds as long as the longest (third or third and fourth pairs, counting from middle), the middle pair shorter than the longest by less than length of tarsus; rectrices not attenuated terminally, though distinctly tapering, their tips narrowly rounded. Tarsus much shorter than middle toe without claw; outer toe as long as middle toe; webs between anterior toes slightly excised.

Plumage and coloration.—Plumage blended throughout, the occipital feathers without trace of elongation. Adults plain grayish brown, grayer on pileum, the forehead sometimes white or grayish white; a white streak on lower eyelid and small white spot on upper eyelid.

Range.—Tropical seas of both hemispheres. (Monotypic.)

KEY TO THE AMERICAN FORMS OF *ANOUS STOLIDUS*.^a

- a. General color lighter and browner; pileum lighter gray, becoming more distinctly and extensively whitish anteriorly. (Tropical and subtropical portions of Atlantic Ocean; breeding northward to coasts of Florida and Louisiana.)

Anous stolidus stolidus (p. 546).

^a In addition to the forms of this species occurring in American waters, the following subspecies are recognized by Mathews (Birds of Australia, ii, pt. 4, Nov. 1, 1912, 405-411):

(1) *Anous stolidus unicolor*. *Sterna unicolor* Nordmann, in Erman's Verz. u. Pfl., 1835, 17 (South Seas; coll. Berlin Mus.).—*Anous unicolor* Boie, Isis, 1844, 188.—*Anous stolidus unicolor* Mathews, Birds Australia, ii, no. 4, Nov. 1, 1912, 411 (Society Islands; Paumotu, etc.).

(2) *Anous stolidus gilberti*. (Mathews, Birds Australia, ii, no. 4, Nov. 1, 1912, 405, 411) (Australia.)

(3) *Anous stolidus pileatus*. *Sterna pileata* Scopoli, Del. Faun. et Flor. Insubr., ii, 1786, 92 (Philippines; based on *Le Petit Fouquet des Philippines* Sonnini, Voy.

aa. General color darker and less brown; pileum darker gray, becoming less distinctly (sometimes not at all) whitish anteriorly.

b. Intermediate in coloration between *A. s. stolidus* and *A. s. galapagensis*. (Pacific coast of Mexico and adjacent islands.).....*Anous stolidus ridgwayi* (p. 550).

bb. Decidedly darker than *A. s. ridgwayi*, with pileum often but little paler on forehead than on occiput. (Galapagos Islands.)

Anous stolidus galapagensis (p. 551).

ANOUS STOLIDUS STOLIDUS (Linnaeus).

NODDY.

Adults (sexes alike).—General color plain deep sooty brown (nearly clove brown), the under parts somewhat lighter (nearly sepia), paler and more grayish on hindneck, where passing, anteriorly, through pale gray into white or grayish white on forehead and superciliary region; a bar or narrow crescent of white on lower eyelid; lores and narrow space immediately above eye black or sooty black, in abrupt and strong contrast with white or grayish white of forehead and superciliary region, the sides of head and neck, chin, and throat sooty brownish but of a more grayish cast (sometimes nearly dark plumbeous, especially in fresh plumage) than the general color; remiges and primary coverts darker sooty brown, the primaries and their coverts approaching sooty black; axillars and under wing-coverts deep brownish gray; bill black; iris dark brown; legs and feet brownish (said to be dull brownish red or reddish brown, with ochraceous webs, in life).

Young.—Essentially like adults but general color lighter sooty brown and pileum much less distinctly gray, with white, or very pale gray restricted to a narrow superciliary line, sometimes continued around lateral and anterior edges of forehead.

Downy young.—Immaculate dull grayish white to pale brownish gray or even sooty brown, paler (sometimes dull white) on abdomen.

Nouv. Guinea, 1776, 125, pl. 85).—*A[nous] pileatus* Gray, Gen. Birds, iii, 1846, 661; Pelzeln, Reis. 'Novara,' Vög., 1865, 155, 162.—*Anous pileatus* Salvin and Godman, Biol. Centr.-Am., Aves, iii, 1903, 413, part (Pacific Ocean, from Philippine Islands to China and Laysan).—*Anous stolidus pileatus* Hartert, Novit. Zool., vii, 1900, 9; Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 411 (Philippines; Liu Kiu Islands; China Sea).—[*Sterna*] *philippina* Latham, Index Orn., ii, 1790, 805.—*Thalasseus philippina* Boie, Isis, 1844, 182.

(4) *Anous stolidus rousseauli*. *Anous rousseauli* Hartlaub, Beitr. Orn. Madagascar, 1861, 86.—*Anous stolidus rousseauli* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 411 (Madagascar; Mauritius; Seychelles; etc.).

(5) *Anous stolidus plumbeigularis*. *Anous plumbeigularis* Sharpe, Phil. Trans., clxviii, 1879, 468 (Red Sea; coll. Br. Mus.).—*Anous stolidus plumbeigularis* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 411 (Red Sea).

Adult male.—Wing, 261.5–273 (268.1); tail, 139–148 (144); exposed culmen, 41–44.5 (43.4); tarsus, 23.5–25.5 (24.4); middle toe, 31–32.5 (31.5).^a

Adult female.—Wing, 259–266 (263.3); tail, 137.5–140 (138.2); exposed culmen, 39.5–42 (40.5); tarsus, 23–24.5 (23.6); middle toe, 29–31 (30).^b

Atlantic Ocean, chiefly on American side, from Florida Keys, Bahamas, and coast of Louisiana (where resident), southward through West Indies and along Gulf and Caribbean coasts of Mexico and Central America to islands of Trinidad and Los Hermanos, coast of Brazil, St. Paul Rocks, mid-Atlantic, Fernando Noronha, and south Trinidad, off Brazil, and St. Helena, Ascension, and Tristan da Cunha and Inaccessible islands, off southern Africa; breeding through-

^a Eight specimens.

^b Five specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Bahamas.....	265	139	41.5	24	31
Four adult males from Porto Rico.....	270.2	143.7	44.1	24.3	31.5
One adult male from Grenada.....	269	146	44.5	25	32
One adult male from Atlantic Ocean.....	261.5	148	41	.....	.....
One adult male from Tepic (Isabella Island) (<i>A. s. ridgwayi</i>)....	261.5	149.5	41	25.5	30
Four adult males from coast of Guerrero (<i>A. s. ridgwayi</i>).....	266.2	147.7	42.9	24.2	30.6
Two adult males from Clipperton Island (<i>A. s. ridgwayi</i>).....	274.5	161.5	40.5	24.5	32.2
Two adult males from Cocos Island (<i>A. s. ridgwayi</i>).....	269	165.5	41.7	25	32.5
Seventeen adult males from Galapagos Islands (<i>A. s. galapagensis</i>).....	270	151.3	39.8	22.9	30.8
One adult male from Guam, Pacific Ocean (<i>A. s. unicolor?</i>)....	283	167	40	26	33.5
One adult male from Raraka Island, Pacific Ocean (<i>A. s. unicolor?</i>).....	284.5	167.5	44.5	26	33
Three adult males from islands near Madagascar (<i>A. s. rousseauxi</i>)	277.7	151	42.8	24.8	31.2
One adult male from Straits of Malacca (<i>A. s. pileatus?</i>).....	275	154	40	23.5	30.5
One adult male from southern China Sea (<i>A. s. pileatus</i>).....	265	169	38	25.5	31.5
FEMALES.					
One adult female from Tortugas, Florida.....	261.5	136	40	.....	.....
Four adult females from Porto Rico.....	263.7	121.7	40.6	23.6	30
One adult female from British Honduras.....	272	151	43.5	24	31
Eight adult females from Tepic (Isabella Island) (<i>A. s. ridgwayi</i>).....	274.6	151.1	41.6	24.4	30.7
Four adult females from coast of Guerrero (<i>A. s. ridgwayi</i>).....	272.5	147	41.1	24	30.7
Six adult females from Clipperton Island (<i>A. s. ridgwayi</i>).....	270	153.8	39.6	24.1	31.2
Eight adult females from Galapagos Islands (<i>A. s. galapagensis</i>)..	265.2	144.7	38.9	22.6	30
One adult female from Laysan Island (<i>A. s. unicolor?</i>).....	277	166	40	24	30
One adult female from Guam, Pacific Ocean (<i>A. s. unicolor?</i>)..	278	164.5	39	23	30
One adult female from Seychelles (<i>A. s. rousseauxi</i>).....	244	144	41	23	31
Two adult females from southern China Sea (<i>A. s. pileatus</i>)....	270	160	37.7	24.5	31.2

out its range;^a accidental in Bermudas (1 specimen, Sept. 12, 1854) and off British Islands (2 records).

[*Sterna*] *stolidus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 137 (West Indies; based on *The Noddy* Catesby, Nat. Hist. Carolina, i, 1731, 88, fig. 88; *La Mouette brune* Brisson, Orn., vi, 1760, 199, pl. 18, fig. 2); ed. 12, i, 1766, 227; Amoen. Acad., iv, 1759, 240.—GMELIN, Syst. Nat., i, pt. ii, 1789, 604.—LATHAM, Index Orn., ii, 1790, 805.

Sterna stolidus BODDAERT, Tabl. Pl. Enl., 1783, 58 (Pl. Enl., pl. 997).—TEMMINCK, Cat. Syst., 1807, 184.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 178, part, pl. G3, fig. 3.—CARMICHAEL, Trans. Linn. Soc., xii, 1819, 497 (*Tristan da Cunha*, breeding).—WERNER, Atlas, Palmipèdes, 1828, pl. 9.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 356.—LESSON, Traité d'Orn., 1831, 620, part.—MAXIMILIAN, Beitr. Naturg. Bras., iv, 1833, 874.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 285.—AUDUBON, Orn. Biog., iii, 1835, 516, pl. 275; v, 1839, 642; Synopsis, 1839, 322; Birds Am., 8vo. ed., vii, 1844, 123, pl. 440.—THOMPSON, Proc. Zool. Soc. Lond., 1835, 84 (off Ireland); Mag. Zool. Bot., i, 1837, 459 (off Ireland).—JENYNS, Man. Brit. Vertebr., 1835, 270.—GOULD, Birds Europe, v, 1837, pl. 421 and text.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 213.—SCHINZ, Europ. Faun., 1840, 377.—YARRELL, Brit. Birds, iii, 1843, 417; 2d ed., 1845, 531.—DEGLAND, Orn. Eur., ii, 1849, 335.—THOMPSON, Birds Ireland, iii, 1851, 308.—BURMEISTER, Syst. Ueb. Th. Bras., iii, 1856, 453 (*Fernando Noronha*).—HEWITSON, Eggs Brit. Birds, ii, 1856, 486, pl. 134, fig. 3.—MEYER, Brit. Birds, vii, 1857, 113, pl. 298.—SCHLEGEL, Mus. Pays-Bas, vi, Sternæ, 1864, 36, part.—BRYANT, Proc. Bost. Soc., xi, 1867, 97 (*Santo Domingo*).—HARTING, Handb. Brit. Birds, 1872, 170.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 294, pl. 49 (eggs).

St[erna] stolidus MARTENS, Journ. für Orn., 1859, 222 (*Bermudas*).

Megalopterus stolidus BONAPARTE, Geog. and Comp. List, 1838, 61.—GOULD, in Darwin's Zool. Voy. 'Beagle,' iii, 1841, 145, part (*St. Paul Rocks, Atlantic Ocean*).—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 236; Brit. Birds, v, 1852, 672.—ALBRECHT, Journ. für Orn., 1862, 207 (*Jamaica*).

M[egalopterus] stolidus KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 248.

Anous stolidus GRAY, List Gen. Birds, 1841, 100; List Birds Brit. Mus., Anseres, 1844, 180; Cat. Brit. Birds, 1863, 244.—REICHENBACH, Syst. Nat., 1850, pl. 4.—CABANIS, Journ. für Orn., 1857, 234 (*Cuba*).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 865; Ann. Lyc. N. Y., viii, 1865, 106 (*Sombrero*; breeding habits); Proc. U. S. Nat. Mus., i, 1879, 277 (*Grenada*, breeding); 488 (*Dominica*).—BAIRD, Cat. N. Am. Birds, 1859, no. 696.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 133 (*Bahamas*, breeding).—ALBRECHT, Journ. für Orn., 1861, 58 (*Bahamas*).—GUNDLACH, Journ. für Orn., 1862, 94 (*Cuba*; crit.); 1874, 314 (*Porto Rico*); 1875, 395 (*Cuba*; habits); 1878, 163, 191 (*Porto Rico*); Orn. Cubana, 1876, 311.—COUES, Proc. Ac. Nat. Sci. Phila., 1862,

^a Breeding localities for which definite records are at hand are the following:

Bahamas: Washwoman Cay, Andros Island; Mirapovos Islands.

Greater Antilles: Jamaica; Porto Rico, including Mona and Desecheo islands.

Lesser Antilles: Sombrero; St. Vincent; Guadeloupe; Grenada.

Off Venezuela: Trinidad; Los Hermanos Island.

Off Brazil: St. Paul Rocks; South Trinidad.

Off British Honduras: Curlew Cay; Southwest-of-all Cay.

Off southern Africa: Ascension Island; Tristan da Cunha; Inaccessible Island.

- 557, part (monogr.); Check List, 1873, no. 576; 2d ed., 1882, no. 808: *Birds Northwest*, 1874, 710 (excl. syn. part).—SALVIN, *Ibis*, 1864, 392 (Glovers Reef, Brit. Honduras).—SUNDEVALL, *Oefv. K. Vet.-Akad. Stockholm*, 1869, 590 (St. Bartholomew).—MELLISS, *Ibis*, 1870, 106 (St. Helena).—PELZELN, *Orn. Bras.*, 1870, 461 (Fernando Noronha).—SCLATER and SALVIN, *Proc. Zool. Soc. Lond.*, 1870, 838 (coast Honduras); 1871, 566, part. (monogr.).—SAUNDERS, *Proc. Zool. Soc. Lond.*, 1876, 669, part (monogr.); 1877, 797, part (Inaccessible Island, near Tristan da Cunha; St. Paul Rocks; crit.; descr. eggs); *Journ. Linn. Soc.*, xiv, 1878, 405, part (range); *Voy. 'Challenger'*, ii, pt. viii, 1881, 137, part (same); ed. Yarrell's *Brit. Birds*, iii, 1884, 567; *Man. Brit. Birds*, 1889, 639; *Cat. Birds Brit. Mus.*, xxv, 1896, 136, part (Florida; e. coast Mexico; Jamaica; Nevis; St. Vincent; Grenada, Redonda; Glovers Reef and Cay Dolores, Brit. Honduras; Fernando Noronha; Bahia, Brazil; Inaccessible Island, near Tristan da Cunha; St. Paul Rocks, middle Atlantic).—MOSELEY, *Nat. on 'Challenger'*, 1879, 68 (St. Paul Rocks).—PENROSE, *Ibis*, 1879, 280 (Ascension Island; habits; descr. eggs).—DALGLEISH, *Bull. Nutt. Orn. Club*, v, 1880, 220 (two British records).—CORY, *Birds Bahama Is.*, 1880, and 2d ed., 1890, 216; *Birds Haiti and San Dom.*, 1885, 182; *Auk*, v, 1888, 80 (West Indian localities and references); *Birds West Ind.*, 1889, 291; *Cat. West Ind. Birds*, 1892, 83 (New Providence, Andros, and Long Islands, Bahamas; Cuba; Jamaica; Haiti; Sombrero; St. Bartholomew; Montserrat; Guadeloupe; Dominica; Grenada); *Pub. 137, Field Mus. N. H.*, 1909, 226 (Los Hermanos Island, breeding).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880, 208; *Nom. N. Am. Birds*, 1881, no. 695.—MAYNARD, *Birds E. N. Am.*, 1881, 481 (Florida).—GRISDALE, *Ibis*, 1882, 493 (Montserrat).—REID, *Bull. U. S. Nat. Mus.*, no. 25, 1884, 271 (Bermudas, 1 spec., Sept. 12, 1854).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 325, part.—MURRAY, *Narr. 'Challenger'*, 1885, 204 (St. Paul Rocks).—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, and 2d ed., 1895, no. 79; 3d ed., 1910, p. 47.—WELLS, *Proc. U. S. Nat. Mus.*, ix, 1887, 632 (Grenada, breeding).—SCOTT, *Auk*, viii, 1891, 358 (Jamaica, breeding; habits).—CHAPMAN, *Bull. Am. Mus. N. H.*, vi, 1894, 84 (Trinidad).—STONE, *Proc. Ac. Nat. Sci. Phila.*, 1894, 115, 116 (crit.).—BEYER, *Proc. Louis. Soc. Nat.* for 1897-1899 (1900), 86 (coast of Louisiana, resident).—BONHOTE, *Ibis*, 1903, 315 (Washerwoman Cay, Andros Island, Bahamas, breeding; habits).—SALVIN and GODMAN, *Biol. Centr.-Am.*, Aves, iii, 1903, 412, part (cays on coast Brit. Honduras; Honduras; West Indies).—NICOLL, *Ibis*, 1904, 36 (St. Paul Rocks, breeding); 1906, 670 (South Trinidad, breeding).—LOWE, *Ibis*, 1909, 310 (St. Vincent, breeding).
- [*Anous stolidus* GUNDLACH, *Journ. für Orn.*, 1861, 348 (Cuba).—GRAY, *Hand-list*, iii, 1871, 123, no. 11084, part.—COUES, *Key N. Am. Birds*, 1872, 323.—SCLATER and SALVIN, *Nom. Av. Neotr.*, 1873, 147, part.—CORY, *List Birds West Ind.*, revised ed., 1886, 34.—SHARPE, *Hand-list*, i, 1899, 137, part.—FORBES and ROBINSON, *Bull. Liverp. Mus.*, ii, no. 2, 1899, 56, part (Tortuga Keys, Florida).
- A[nous] *stolidus* GRAY, *Gen. Birds*, iii, 1846, 661, part.—COUES, *Key N. Am. Birds*, 2d ed., 1884, 771, part.—RIDGWAY, *Man. N. Am. Birds*, 1887, 48, part.
- Anous stolidus stolidus* MATHEWS, *Birds Australia*, ii, pt. 4, Nov. 1, 1912, 410 (Atlantic Ocean).—WETMORE, *Bull.* 326, U. S. Dept. Agric., 1916, 46 (Porto Rico; Mona and Desecheo islands, breeding; habits; food).—NOBLE, *Bull. Mus. Comp. Zool.*, lx, 1916, 369 (Guadeloupe, breeding).
- Anous niger* STEPHENS, *Shaw's Gen. Zool.*, xiii, pt. 1, 1825, 140, pl. 17 (Tropical seas, St. Helena, Bermuda Islands, Brazil, and Cayenne).

G[avia] leucocephala SWAINSON, *Classif. Birds*, ii, 1837, 373 (Louisiana; based on *Mouette brune, de la Louisiane* Daubenton, Pl. Enl., pl. 997).

A[nous] leucocephala GRAY, *Gen. Birds*, iii, 1846, 661.

(?) *Anous melanogenys* (not of Gray, 1846) LÉOTAUD, *Ois. Trinidad*, 1866, 547.

Anous superciliosus SHARPE, *Philos. Trans.*, clxviii, 1879, 468 (coast of Central America and the Antilles).

ANOUS STOLIDUS RIDGWAYI Anthony.

SOCORRO NODDY.

Similar to *A. s. stolidus* but coloration slightly darker, the pileum darker gray, becoming white only on anterior margins.^a

Adult male.—Wing, 261.5–292 (272.6); tail, 142–169 (160.5); exposed culmen, 41–43.5 (41.9); tarsus, 23–26 (24.6); middle toe, 30–34 (31.3).^b

Adult female.—Wing, 265–283 (272.6); tail, 141.5–162 (151.1); exposed culmen, 38–43 (40.8); tarsus, 23–26 (24.2); middle toe, 29–32 (30.8).^c

Pacific coast of Mexico, from Tres Marias Islands and Isabella Island, Tepic, to coast of Guatemala, Socorro Island, Revillagigedo group, Clipperton Island, and Cocos Island.

Anous stolidus (not *Sterna stolidus* Linnæus) SCLATER and SALVIN, *Ibis*, 1859, 233 (Pacific coast Guatemala).—LAWRENCE, *Mem. Bost. Soc. N. H.*, ii, 1874, 318 (Isabella Island, Tepic, n. w. Mexico, breeding; habits; descr. nest and eggs).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 325, part (Pacific coast Central America).—TOWNSEND, *Bull. Mus. Comp. Zool.*, xxvii, 1895, 125 (Cocos Island, Costa Rica; crit.).—CARRIKER, *Am. Carnegie Mus.*, vi, 1910, 415 (Cocos Island).—GIFFORD, *Proc. Calif. Ac. Sci.*, 4th ser., ii, pt. i, 1913, 24, part (Clipperton and Cocos islands).

Anous stolidus ridgwayi ANTHONY, *Auk*, xv, no. 1, Jan., 1898, 36 (Socorro Island, Revillagigedo group, off w. Mexico; coll. A. W. Anthony); no. 4, Oct., 1898, 316 (Socorro Island).—NELSON, *North Am. Fauna*, no. 14, 1899, 26 (Tres Marias, May; Isabella Island, May; between San Blas and Tres Marias; habits).—SNODGRASS and HELLER, *Proc. Wash. Ac. Sci.*, iv, 1902, 507 (Clipperton and Cocos islands; descr., measurements; habits; descr. eggs).—MATHEWS, *Birds Australia*, ii, 1912, 411 (Socorro; Tres Marias).

[*Anous*] *stolidus* subsp. *ridgwayi* FORBES and ROBINSON, *Bull. Liverp. Mus.*, ii, no. 2, 1899, 56 (reprint of orig. descr.).

[*Anous*] *ridgwayi* SHARPE, *Hand-list*, i, 1899, 137.

Anous pileatus (not *Sterna pileata* Scopoli, 1786) SALVIN and GODMAN, *Biol. Centr.-Am., Aves*, iii, 1903, 661, part, excl. syn. (Isabella, Tres Marias, and Clipperton islands; Pacific coast Guatemala).

^a So far as the material examined enables me to judge, typical specimens of this form are confined to Socorro, Clipperton, and Cocos islands; at any rate, examples from Isabella island, off Tepic, and from the coast of Guerrero (Sihuatanejo) are in coloration more like *A. s. stolidus*; in fact, some of them I am not able to distinguish satisfactorily from that form.

^b Nine specimens.

^c Eighteen specimens.

ANOUS STOLIDUS GALAPAGENSIS (Sharpe).

GALAPAGOS NODDY.

Similar to *A. s. ridgwayi* but much darker and less brownish, the head and neck almost slate color and the forehead mouse gray, often but little lighter or grayer than the occiput, though usually with a more or less distinct supra-loral line of pale gray or hoary gray.

Adult male.—Wing, 254–285 (270); tail, 141–164 (151.3); exposed culmen, 38–43 (39.8); depth of bill at base, 9–10.5 (9.7);^a tarsus, 21–24.5 (22.9); middle toe, 30–33 (30.8).^b

Adult female.—Wing, 245–281 (265.2); tail, 127–155 (144.7); exposed culmen, 35.5–43.5 (38.9); depth of bill at base, 8–9.5 (8.8);^c tarsus, 21–24 (22.6); middle toe, 28.5–31.5 (30).^d

Galapagos Archipelago (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Champion, Charles, Chatham, Culpepper, Dalrymple, Daphne, Duncan, Gardner-near-Charles, Gardner-near-Hood, Hood, Indefatigable, James, Jervis, Nameless, Narborough, Onslow, Seymour, Tower, and Wenman islands).

Megaloptyx stolidus (not *Sterna stolidus* Linnaeus) GOULD, in Darwin's Zool. Voy. 'Beagle,' iii, 1841, 145, part (Galapagos Islands).

Anous stolidus SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 125 (Galapagos Islands).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 504 (Dalrymple Rock, near Chatham Island, Galapagos).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 116 (Dalrymple Rock and Chatham Island).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 24, part (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Champion, Charles, Chatham, Culpepper, Dalrymple, Daphne, Duncan, Gardner-near-Charles, Gardner-near-Hood, Hood, Indefatigable, James, Jervis, Nameless, Narborough, Onslow, Seymour, Tower, and Wenman islands, Galapagos; habits), 113 (measurements).

Anous galapagensis SHARPE, Philos. Trans., clxviii, 1879, 469 (Dalrymple Rock, Chatham Island, Galapagos; coll. Brit. Mus.).—SALVIN, Proc. Zool. Soc. Lond., 1883, 430 (Charles Island).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 116 (Hood and Chatham islands); xix, 1896, 642 (Albemarle, Charles, Hood, Chatham, Tower, and Wenman islands: descr., measurements, etc.).—STONE, Proc. Ac. Nat. Sci. Phila., 1894, 115–117 (crit.).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 143 (Dalrymple Rock and Charles Island).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 89 (Culpepper Island; habits).

A[nous] galapagensis ROTHSCCHILD and HARTERT, Novit. Zool., vi, 1899, 109 (Wenman Island).

[*Anous*] *galapagensis* SHARPE, Hand-list, i, 1899, 137.

Anous stolidus galapagensis ROTHSCCHILD and HARTERT, Novit. Zool., vi, April, 1899, 107 (at sea near Culpepper Island), 108 (Culpepper Island), 191 (Galapagos Islands; crit.; descr. nest and eggs); ix, 1902, 413 (Wenman Island; descr. downy young), 418 (Galapagos).—MATHEWS, Birds Australia, ii, 1912, 411 (Galapagos).

A[nous] stolidus galapagensis ROTHSCCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos).

^a Eleven specimens.

^b Seventeen specimens.

^c Two specimens.

^d Eight specimens.

[*Anous*] *stolidus* subsp. *galapagensis* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 56.

Anous galapagoensis BAUR, Am. Nat., xxxi, 1897, 782 (Duncan Island), 783 (Gardner-near-Hood Island).

Genus MEGALOPTERUS Boie.

Megalopterus BOIE, Isis, 1826, 980. (Type, by monotypy, *Sterna tenuirostris* Temminck.)

Micranous^a SAUNDERS, Bull. Brit. Orn. Club, no. xxiii, Jan. 29, 1895, p. xix; Ibis, April, 1895, 276. (Type, by original designation, *Sterna tenuirostris* Temminck.)

Anousella^b MATHEWS, Birds Australia, ii, pt. 4, Nov. 1, 1912, 412, in text. (Type, by original designation, *Anous leucocapillus* GOULD.)

Medium-sized or rather small Sternidæ (wing 210–225 mm.) resembling *Anous*, but with gonys longer than mandibular rami (instead of shorter), maxilla not decurved distally, and tail less strongly graduated and less deeply forked.

Bill relatively slender, longer than head, nearly straight (the exposed culmen, however, shorter than middle toe with claw), its greatest depth equal to only one-fourth (or less) the distance from anterior end of nostril to tip of maxilla; culmen straight for most of its extent, very slightly decurved distally; gonys longer than mandibular rami, straight, slightly ascending terminally, rather prominent basally; nostril narrowly elliptical or linear, longitudinal, almost wholly anterior to mental antia; anterior outline of feathering on forehead and lores sloping backward and downward from frontal antia (at base of culmen) to rictus, without trace of loreal or latero-frontal antia. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by decidedly more than half the length of folded wing, but by very much less than twice the distance from tips of distal secondaries to bend of wing. Tail decidedly more than half as long as wing, slightly forked and moderately graduated, the lateral pair of rectrices about three-fourths as long as the longest (third and fourth pairs, counting from middle), the middle pair shorter than longest by much less than half the distance between tips of longest and shortest rectrices; rectrices slightly but distinctly tapering terminally, with rounded tips. Tarsus decidedly shorter than middle toe without claw; outer toe as long as middle toe or very slightly shorter; webs between anterior toes with anterior edge but slightly excised.

Plumage and coloration.—Plumage blended throughout as in *Anous*, with occipital feathers not elongated. Adults plain dusky, except pileum and nape, which are grayish or whitish.

Range.—Tropical seas of both hemispheres. (Two species?)

^a *Microps*, small; + *Anous* (*ānoos*, silly, stupid). (Richmond.)

^b *Anous* (*ānoos*, foolish)+ella. (Mathews.)

KEY TO THE SPECIES AND SUBSPECIES OF MEGALOPTERUS.^a

- a. Lores light gray to grayish white, like pileum; general coloration lighter.
 - b. Islands of western Indian Ocean (Seychelles, Mauritius, Madagascar, etc.).—
Megalopterus tenuirostris tenuirostris (extralimital).^b
 - bb. West coast of Australia *Megalopterus tenuirostris melanops* (extralimital).
 - aa. Lores black or very dark brown, in strong and abrupt contrast with gray or white pileum; general coloration darker.
 - b. Whole forehead (as well as crown, etc.) distinctly white or gray, sharply defined against black of lores; lores black, much darker than cheeks. (*Megalopterus minutus*.)
 - c. Pileum white or grayish white, in rather abrupt contrast with deep gray of hindneck; gray of tail much darker.
 - d. Color of under parts, hindneck, and upper back slightly darker. (West Indies, Gulf and Caribbean coasts of Mexico and Central America, etc.).
Megalopterus minutus atlanticus (p. 554).
 - dd. Color of under parts, hindneck, and upper back slightly lighter and grayer. (Philippine Islands.)... *Megalopterus minutus worcesteri* (extralimital).^c

* ^a Specimens of *Megalopterus* are so few in American collections (with the exception of *M. melanogenys* and *M. diamesus*) that I am unable to bring together a sufficient series to show clearly the relationships of the several forms. Therefore, this "key" is a provisional one only. Besides the forms here mentioned, Mr. Gregory Mathews, the latest reviser of the group, in his *Birds of Australia*, recognizes the following subspecies, but I have not seen specimens of any of them, nor of *M. tenuirostris tenuirostris* and *M. diamesus*:

Megalopterus tenuirostris melanops.—*Anous melanops* Gould, Proc. Zool. Soc. Lond., 1845 (pub. Feb., 1846), 103 (Houtman's Abrolhos, w. coast Australia); *Birds Australia*, vii, 1848, pl. 35 and text; Handb. Birds Australia, ii, 1865, 417.—*Megalopterus tenuirostris melanops* Mathews, *Birds Australia*, ii, pt. 4, Nov. 1, 1912, 414, 416.—*Sterna tenuirostris* (not of Temminck) Schlegel, Mus. Pays-Bas, *Sternae*, 1863, 37 (Australia).—*Anous tenuirostris* Saunders, Proc. Zool. Soc. Lond., 1876, 670, part (monogr.); Stone, Proc. Ac. Nat. Sci. Phila., 1894, 117, part (West Australia; crit.).—*Micranous tenuirostris* Saunders, Cat. Birds Brit. Mus, xxv, 1896, 144, part (West Australia).—(?) *Anous atrofusca* Stone, Proc. Ac. Nat. Sci. Phila., 1894, 117 ("Mer de Montevideo").—(?) *A[nous] atrofusca* Ridgway, Man. N. Am. Birds, 2d ed., 1896, 48, part.

Not having seen either form of this species I am unable to give their distinctive characters.

Megalopterus minutus marcus.—*Micranous marcus* Bryan, Occ. Papers Bernice Pauahi Bishop Mus., ii, 1903, 101 (Marcus Island).—*Megalopterus minutus marcus* Mathews, *Birds Australia*, ii, pt. 4, Nov. 1, 1912, 423 (Marcus Island; Mariannes?).

^b *Sterna tenuirostris* Temminck, Pl. Col., 1823, pl. 202 and text ("Senegal"); Schlegel, Mus. Pays-Bas, vi, no. 24 (*Sternae*), 1864, 37, part (Reunion; Mauritius).—*Megalopterus tenuirostris* Gray, List Gen. Birds, 1840, 79.—*Hydrocecropis tenuirostris* Boie, Isis, 1844, 179.—*Anous tenuirostris* Reichenbach, *Natatores*, 1848, pl. 20, fig. 288; Saunders, Proc. Zool. Soc. Lond., 1876, 670, part, pl. 61, fig. 1 (monogr.); Hartlaub, Fauna Madagasc., 1861, 86; Vög. Madagasc., 1877, 392; Milne-Edwards and Grandidier, Nat. Hist. Madagasc., Ois., 1882, pls. 290a, 290b (osteology); Stone, Proc. Ac. Nat. Sci. Phila., 1894, 115–117, part (Mauritius; crit.).—*Micranous tenuirostris* Mathews, *Birds Australia*, ii, 1912, pl. (116) facing p. 414.—*Megalopterus tenuirostris tenuirostris* Mathews, *Birds Australia*, ii, pt. 4, Nov. 1, 1912, 416 (Seychelles, breeding).

^c *Micranous worcesteri* McGregor, Philippine Journ. Sci., Sec. D, vol. vi, 1911, 185 (Cavalli, Sulu Sea).—*Megalopterus minutus worcesteri* Mathews, *Birds Australia*, ii, no. 4, Nov. 1, 1912, 423 (Philippines).

cc. Pileum light gray passing gradually into the deeper gray of hindneck; gray of tail decidedly lighter. (Hawaiian Islands.)

Megalopterus minutus melanogenys (extralimital).^c

bb. Forehead with a distinct brownish gray or grayish brown area on each side, adjoining the dark loreal area, the latter dark sooty brown or sooty blackish, like checks. (Kermadec Islands.) *Megalopterus* —? (extralimital).^b

MEGALOPTERUS MINUTUS ATLANTICUS ^c Mathews.

CARIBBEAN WHITE-CAPPED NODDY.

Adults (sexes alike).—General color plain deep sooty brown, blackish brown, blackish fuscous or sooty black, passing, through a lighter and grayer hue on hindneck, and neutral gray on nape, into immaculate white or grayish white on pileum; lores and space immediately above eyes black (in strong and abrupt contrast with white of forehead and crown), the lower eyelid with a white streak; tail and longer tail-coverts (both upper and lower) brownish gray (between mouse gray and deep quaker drab); bill black; iris dark brown; legs and feet dusky brownish.

Immature.—"Forehead and crown white; lores white; neck and nape sooty black, which throws the white crown into strong relief, owing to the absence of any intermediate lead color; mantle, tail, and under parts umber-brown, the primaries blackish."^d

Young.—"Forehead and anterior crown white; lores black; upper parts generally umber-brown, with cinnamon borders to the wing-coverts and secondaries; primaries blackish; under parts mouse-brown. In an older bird the white is less pure, but extends farther back on the crown, and the plumage has a slightly barred appearance."^d

Downy young.—"Forehead and crown dull white, rest of the body sooty black."^d

^a *Anous melanogenys* Gray, Gen. Birds, iii, 1846, 661, pl. 182; Stejneger, Proc. U. S. Nat. Mus., xi, 1888, 94 (Niuhau, Hawaiian Islands; crit.).—*Megalopterus minutus melanogenys* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 423 (Hawaiian group).—*Anous hawaiiensis* Rothschild, Bull. Brit. Orn. Club, no. x, July 4, 1893, p. lvii; Ibis, 1893, 571 (Hawaiian Islands; coll. Tring Mus.); Henshaw, Birds Hawaiian Is., 1902, 125 (habits).—*Micranous hawaiiensis* Saunders, Cat. Birds Brit. Mus., xxv, 1896, 148; Fisher (W. K.), Bull. U. S. Fish Com. for 1903, 16, pl. 3, figs. 9-11 (Laysan, etc.; habits); Bryan, Occas. Papers B. P. B. Mus., iv, no. 2, 1908, 47 [137] (Molokai).—*M [icranous] hawaiiensis* Bryan, Key Birds Hawaiian Group, 1901, 9.

Not having examined a specimen of *Micranus diamesus*, I am unable to include that form in the key. The original description compares it with *M. hawaiiensis* (= *melanogenys*) but at the same time says that it has the pileum "nearly pure white!"

^b I am unable to place this bird, of which two specimens have been examined. They may be the young or immature of one of the known forms, but descriptions of younger stages as given by Saunders and others do not at all apply to it.

^c Owing to absence of specimens, I am unable to compare this form with *M. m. minutus*.

^d Saunders, Cat. Birds Brit. Mus., xxv, 1896, 147. Since Saunders included all the geographic forms or subspecies, except *M. m. hawaiiensis* (= *melanogenys*) under one name and description, it may be that the descriptions quoted are from some other form of the species.

Adult male.—Wing, 214.5–215 (214.7); tail, 112.5–113 (112.7); exposed culmen (one specimen only), 41; tarsus, 20–20.5 (20.2); middle toe, 26–28 (27).^a

Adult female.—Wing, 222; tail, 116; exposed culmen, 42.5; tarsus, 20; middle toe, 27.5.^b

Islands of Caribbean Sea and middle Atlantic Ocean, from coast of British Honduras (Southwest-of-all Cay; Glovers Reef) to St. Paul Rocks and Fernando Noronha, off Brazil, and Ascension Island and Tristan da Cunha, off southern Africa.

A[nous] tenuirostris (not *Sterna tenuirostris* Temminck, 1823) SALVIN, Ibis, 1864, 383 (Southwest-of-all Cay, Brit. Honduras).

Anous tenuirostris COUES, Ibis, 1864, 393 (Glovers Reef, Brit. Honduras; crit.); Birds Northwest, 1874, 710, footnote, part (synonymy).—SALVIN, Ibis, 1866, 200 (Glovers Reef).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 566, part (coast of Honduras; Trinidad; monogr.).

[*Anous*] *tenuirostris* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 147.

Anous melanogenys (not of Gray, 1846) SAUNDERS, Proc. Zool. Soc. Lond., 1876, 670, part, pl. 61, fig. 2 (coast of Central America; monogr.); 1877, 798, part (St. Paul Rocks, Atlantic Ocean; Tristan da Cunha Island); Voy. 'Challenger,' ii, pt. viii, 1881, 137, part (St. Paul Rocks; Tristan da Cunha).—PENROSE, Ibis, 1879, 280 (Ascension Island; habits; descr. eggs).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 324, part (coast Honduras).

A[nous] melanogenys RIDGWAY, Man. N. Am. Birds, 1887, 48, part ("Gulf coast of Mexico").

Anous leucocapillus (not of Gould, 1845) SAUNDERS, Proc. Zool. Soc. Lond., 1876, 670, part, pl. 61, fig. 3 (monogr.).—STONE, Proc. Ac. Nat. Sci. Phila., 1894, 117, part (Brit. Honduras; crit.).

^a Two specimens, from Glovers Reef, British Honduras.

^b One specimen, from Glovers Reef.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Two adult males from British Honduras.....	214.7	112.7	41	20.2	27
Twenty-six males from Clipperton and Cocos Islands (<i>M. m. diamesus</i>).....	232	124	44.7	20.2	27.8
Seven adult males from Hawaiian Islands (<i>M. m. melanogenys</i>)..	218.1	124	42.1	19.8	26.4
One adult male from Philippine Islands (<i>M. m. worcesteri</i>)....	218	120.5	44	20.5	30
FEMALES.					
One adult female from British Honduras.....	222	116	42.5	20	27.
Thirty adult females from Clipperton and Cocos Islands (<i>M. m. diamesus</i>).....	229	121	42.2	19.7	27.5
Four adult females from Hawaiian Islands (<i>M. m. melanogenys</i>)..	211.4	115.4	39.7	18.7	25.2
Two adult females from Philippine Islands (<i>M. m. worcesteri</i>)..	213	115	39.2	20.2	28.5
Two adult females from Kermadec Island (<i>M. m. ———</i>).....	217.7	119	41.5	19.7	28.2

(Measurements of *M. m. diamesus* are from Gifford, Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 32, 113.)

A[nous] leucocapillus RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 48 (not of 1st ed., 1887).

Micranous leucocapillus SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 145, part (Glovers Reef, Brit. Honduras; Fernando Noronha Island, off n. Brazil St. Paul Rocks; Ascension Island).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 415 part (Glovers Reef and Southwest-of-all Cay, Brit. Honduras).—NICOLL, Ibis, 1904, 36 (St. Paul Rocks, middle Atlantic Ocean habits).

[*Micranous*] *leucocapillus* SHARPE, Hand-list, i, 1899, 138, part (Caribbean Sea; "E. America").

Megalopterus minutus atlanticus MATHEWS, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 423 (Ascension Island; St. Paul Rocks; Fernando Noronha; Caribbean Sea; British Honduras).

MEGALOPTERUS MINUTUS DIAMESUS (Heller and Snodgrass).

CLIPPERTON NODDY.

Similar to *M. m. melanogenys* ^a "but differs in being darker on the shoulders, on the lower part and sides of the neck and on the sides of the head, and in having a more slender and shorter bill and shorter tarsus."

Adults (sexes alike).—"Forehead and top of head almost pure white, back part of head and nape with a plumbeous tinge. Back of neck plumbeous, darkening into dark plumbeous on shoulders and then into brown on the mantle. Rest of upper parts, except upper tail-coverts and tail, dark dusky brown; outer webs of outer primaries sooty brown, almost black; upper tail-coverts and tail dark plumbeous-gray. Under parts dark dusky brown darkest on lower breast and on belly. Lower tail-coverts somewhat lighter plumbeous-brown. Tail below same color as above. Lores and line extending from lores over eye to middle of posterior side of eye, black, a small white spot in this line above posterior part of eye. Lower two-thirds of lower eyelid white. Cheeks deep dark plumbeous, pale color of back of head and neck scarcely extending upon lateral parts."

Immature.—"Top of head pure white, with a few brown feathers posteriorly. Outer webs of outer primaries blackish brown, that of the first almost black. Lores, supraocular line and cheeks dusky brown. All other parts pure dark brown, but with no dusky tinge except on the lower part of the throat."

^a See p. 554.

"In *Micranous hawaiiensis* [i. e. *M. minutus melanogenys*] the pale slaty plumbeous color of the back of the head and neck reaches so far ventrally on the sides of the head and neck and even on the upper part of the breast, that there is distinctly marked off on the chin and throat a median longitudinal area of dark plumbeous brown well defined on each side against the paler lateral parts." (Heller and Snodgrass.)

Adult male.—Wing, 216–241 (232); tail, 112–132 (124); culmen, 40–48.4 (44.7); depth of bill at base, 8–10.6 (9); tarsus, 19.2–21.6 (20.2); middle toe, 26.5–28.9 (27.8).^a

Adult female.—Wing, 212–246 (229); tail, 111–129 (121); culmen, 37.1–42.4 (42.2); depth of bill at base, 7–10.2 (8.4); tarsus, 18.1–20.5 (19.7); middle toe, 25–29.5 (27.5).^b

Off Pacific coast of Central America, breeding on Clipperton and Cocos Islands.

Micranous diamerus HELLER and SNODGRASS, Condor, iii, May, 1901, 76 (Cocos Island; coll. Leland Stanford Jr. Univ.).—SNODGRASS and HELLER, Proc. Wash. Acad. Sci., iv, 1902, 509 (Cocos and Clipperton islands; descr.; crit., measurements).—GIFFORD, Proc. Calif. Acad. Sci., 4th ser., ii, pt. i, 1913, 29 (breeding on Clipperton and Cocos islands; habits, measurements, etc.), 113 (measurements).

Megalopterus minutus diamerus MATHEWS, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 423.

Genus GYGIS Wagler.

Gygis (not *Gyges* Bory de St. Vincent, 1825) WAGLER, Isis, xxv, 1832, 1223. (Type, by original designation and monotypy, *Sterna candida* Gmelin = *S. alba* Sparrman.)

Leucanous^c MATHEWS, Birds Australia, ii, pt. 4, Nov. 1, 1912, 432, in text. (Type, by original designation, *Gygis microrhyncha* Saunders.)

Alphagygis^d MATHEWS, Austral. Avian Rec., ii no. 5, Sept. 24, 1914, 110. (Substitute for *Gygis* Wagler, 1832, considered as preoccupied by *Gyges* Bory de St. Vincent, 1825.)

Rather small Sternidæ (wing 218–251 mm.) with wholly white coloration, cuneate, straight-tipped bill, deeply excised webs, and tail both forked and graduated.

Bill about as long as head, compressed and cuneate terminally and relatively deep basally; exposed culmen longer than tarsus and

^a Twenty-six specimens.

^b Thirty specimens.

Locality.	Wing.	Tail.	Culmen.	Depth of bill at base.	Tarsus.	Middle toe.
MALES.						
Sixteen adult males from Clipperton Island.....	230	123	44.1	9.4	20.3	27.5
Ten adult males from Cocos Island.....	233	124	45.3	8.6	20	28
FEMALES.						
Twelve adult females from Clipperton Island.....	227	121	41.9	8.7	19.7	27.3
Eighteen adult females from Cocos Island.....	231	120	42.4	8	19.6	27.6

(The above measurements are from Gifford, Proc. Calif. Acad. Sci., 4th ser., ii, pt. i, 1913, 32, 113.)

^c Λευκός, white + *Anous* (ἀνους, foolish). (Mathews.)

^d Ἀλφα, first + *Gygis* (γίγης, a fabulous bird); Mathews.

middle toe without claw (sometimes much longer than combined length of tarsus and middle toe *with* claw), nearly straight throughout, but slightly depressed immediately above nostril and more or less elevated basally; gonys longer than mandibular rami, ascending terminally; nostril rather narrowly elliptical, longitudinal, rather small, situated in advance of mental antia and separated from nearest loreal feathering by a space much greater than length of nostril; anterior outline of feathering on forehead and lores variable; in *G. alba* sometimes forming a frontal antia or projecting angle on base of culmen and sloping thence backward and downward to rictus, but sometimes, as in *G. microrhyncha*, forming a notch or reentrant angle at base of culmen, with a distinct antia (latero-frontal) on each side. Wing long and pointed, with longest primary exceeding distal secondaries by less than twice the distance from tips of the latter to bend of wing; outermost primary longest in *G. alba*, slightly shorter than the next in *G. microrhyncha*. Tail less than half as long as wing (much less in *G. microrhyncha*), both forked and graduated with next to outer pair of rectrices longest, the middle pair of rectrices much shorter than the outermost and all the rectrices acuminate in *G. alba*, but as long as or slightly longer than the outer and all the rectrices broader and less acuminate terminally in *G. microrhyncha*. Tarsus about as long as combined length of first two phalanges of middle toe; outer toe decidedly shorter than middle toe; webs deeply excised, occupying only about half the interdigital spaces.

Plumage and coloration.—Plumage soft and blended. Color, entirely white, except a narrow black orbital ring and brownish shafts to primaries and (sometimes) rectrices.

Range.—Pacific, Indian, and southern Atlantic oceans. (Two species.)

KEY TO THE SPECIES OF GYGIS.^a

- a. Bill much stouter, its depth at base equal to about one-fourth the length of exposed culmen; tail nearly half as long as wing, deeply forked, the outermost rectrices much longer than middle pair, all, except middle pair, distinctly acuminate; shafts of primaries and rectrices distinctly brown or dusky. (Intertropical portions of Pacific, Indian, and southern Atlantic Oceans)... *Gygis alba* (p. 559).^a

^a Mr. Gregory Mathews divides this species into the following geographic forms or subspecies:

(1) *Gygis alba alba*.—*Sterna alba* Sparman, Mus. Carls., fasc. i, 1786, no. 11 ("India orientali, ad promontorium Bonae Spei Insulas que maris pacifici"); Mathews, Bds. Austr. ii, p. 441, designates Ascension Id., as type locality; Gmelin, Syst. Nat., i, pt. ii, 1789, 607; Latham, Index Orn., ii, 1790, 808.—*Gygis alba* SHARPE, Ibis, 1904, 217 (South Trinidad I.).—*Gygis alba alba* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 442 (Fernando Noronha; Ascension Island; South Trinidad Island).—*Gygis candida* (not *Sterna candida* Gmelin, 1789) Mellis, Ibis, 1870, 106 (St. Helena, breeding); Saunders, Proc. Zool. Soc. Lond., 1876, 667, part (monogr.); 1877, 797, part (Ascension I.); 1880, 163 (Trinidad I.); Cat. Birds Brit. Mus., xxv, 1896, 149, part

- ea. Bill much more slender, its depth at base equal to less than one-fifth the length of exposed culmen; tail much less than half as long as wing, slightly forked, the outermost rectrices little if any longer than middle pair, none of the rectrices distinctly acuminate; shafts of primaries and rectrices not distinctly (sometimes not at all) dusky. (Marquesas Islands, central Pacific Ocean.)

Gygis microrhyncha (extralimital).^a

GYGIS ALBA CANDIDA (Gmelin)?^b

HAWAIIAN WHITE TERN!

Adults (sexes alike).—Whole plumage immaculate pure white; shafts of primaries and rectrices brownish or dusky, and margin of eyelids black; bill black (in life "black at the tip, shading through purple to indigo blue at the base");^c iris blue;^d legs and feet "dark brown, the webs yellow."^d

Immature.—Similar to adults, but with a postocular spot and anterior margin to eyelids black, and shafts of primaries and rectrices black or dusky.

Young.—Similar to the immature plumage (as described above), but back, scapulars, and tertials tinged or washed with russet or brown, lesser wing coverts and middle rectrices margined terminally with brown or russet, shafts of primaries olive-brown, and shafts of

(Fernando Noronha, Trinidad and Ascension islands); Sharpe, Journ. Linn. Soc., xx, 1890, 480 (Fernando Noronha); Ihering, Revista Mus. Paulista, iv, 1900, 294 (descr. eggs.).—*Gygis crawfordi* Nicoll, Bull. Brit. Orn. Club, xvi, no. cxxvi, July 10, 1906, 102; Ibis, 1906, 669 (South Trinidad Island.)

(2) *Gygis alba monte*.—*Gygis alba monte* Mathews, Birds Australia, ii, no. 4, Nov. 1, 1912, 443 (Seychelles, breeding).

(3) *Gygis alba pacifica*.—*Sterna pacifica* Lesson, Hist. Nat. Mam. et Ois., x, 1837, 156 (Low Archipelago, Pacific Ocean).—*Gygis alba pacifica* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 443 (Society Islands, Samoa, etc.).—*Sterna nivea* Bennett, Narrative Whaling Voy., i, 1840, 370 (Caroline Atoll).

(4) *Gygis alba royana*.—*Gygis alba royana* Mathews, Birds Australia, ii, pt. 4, Nov. 1, 1912, 433, 443 (Kermadec Island and Norfolk Island, breeding; Friendly Islands?).

(5) *Gygis alba kittlitzii*.—*Gygis alba kittlitzii* Hartert, Katal. Vogelsamml. Senckenb. 1891, 237 (Caroline Islands); Mathews, Birds Australia, ii, pt. 4, 1912, 443 (Caroline group; Mariannes?).

(6) *Gygis alba candida* (Synonymy given separately.)

^a *Gygis microrhyncha* Saunders, Proc. Zool. Soc. Lond., 1876, 668 and cut (Marquesas Islands, central Pacific Ocean; coll. Brit. Mus.); Cat. Birds Brit. Mus., xxv, 1896, 152; Tristram, Ibis, 1881, 252; Cat. Coll. Birds, 1889, 10; Wigglesworth, Abh. Zool. Mus. Dresden, 1890-91 (1892), no. vi, 78; Kaiser, Journ. für Orn., 1902, 255 (Nauru Island).

^b Scantiness of material (I have seen no specimens at all from the American side of the Pacific) and the fragmentary manner in which the various forms are treated by the most recent reviser of the group, Mr. Gregory Mathews, necessitates the interrogation mark in connection with the subspecific name. The Pacific-American subspecies is referred tentatively to *G. a. candida* as being the nearest form geographically: but it may be different.

^c Gifford, Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 32.

^d Saunders, Cat. Birds Brit. Mus., xxv, 1896, 150.

rectrices white, all except those of three outer pairs, however, olive-brown subterminally.

Downy young.—Upper parts pinkish buff or light brownish buff (more or less deep) fading into buffy whitish on forehead, superciliary region, and under parts; a postocular streak or elongated spot of black, and on occiput a median transverse spot or bar and two lateral spots (one on each side) of black.

Adult male.—Wing, 223–260 (244); tail, 110–122 (117); exposed culmen, 37.4–43 (40.2); tarsus, 11.9–13.2 (12.5); middle toe, 20.4–22.5 (21.7).^a

Adult female.—Wing, 231–254 (241); tail, 107–129 (119); exposed culmen, 36.7–41.6 (39.2); tarsus, 11.1–12.8 (12); middle toe, 21–22.4 (21.7).^a

More eastern portions of middle Pacific Ocean, from Krusenstern Island, Lisiansky Island, Laysan, Necker Island, and Christmas Island eastward to Revillagigedo Islands (Oneal Rock, near Socorro Island), Clipperton Island, Cocos Island, and Galapagos Archipelago (Tower Island).

[*Sterna candida* GMELIN, Syst. Nat., i, pt. ii, 1789, 607 (Christmas Island and other parts of the South Seas, seen also in St. Helena; founded on Latham, Gen. Syn., iii, 2, 363, no. 17).

^a Ten specimens from Clipperton and Cocos Islands, 40 miles south of Cocos Island and Oneal Rock, near Socorro Island. (Measurements from Gifford, Proc. Calif. Acad. Sci., 4th ser., ii, 1913 34.),

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Oneal Rock, near Socorro Island (<i>G. a. candida?</i>).....	240	115	37.4	12.9	20.4
Three adult males from Clipperton Island (<i>G. a. candida?</i>).....	236.3	117.3	38.2	12.5	21.9
Six adult males from Cocos Island, Costa Rica (<i>G. a. candida?</i>).....	247.7	116.5	41.2	12.4	21.3
Two adult males from Guam, w.-central Pacific (<i>G. a. kirtlandi?</i>)..	241.5	109.5	40.2	13	21.2
One adult male from Raraka, Paumotu group (<i>G. a. pacifica?</i>).....	251	127	45.5	12.5	21.5
One adult male from Tahiti, Society group (<i>G. a. pacifica?</i>).....	249	103	41.5	12.5	20.5
One adult male from Dog Island, Pacific Ocean (<i>G. a. —?</i>).....	240	126	40	13	19.5
One adult male from Aldabra, north of Madagascar (<i>G. a. monte?</i>).....	232	110	40.5	12	19.5
FEMALES.					
Six adult females from Clipperton Island (<i>G. a. candida?</i>).....	236.7	117.4	38.8	12.2	21.6
Three adult females from Cocos Island (<i>G. a. candida?</i>).....	247.3	122	40.2	11.9	21.7
One adult female from 40 miles south of Cocos Island (<i>G. a. candida?</i>).....	245	122	38.9	12.1	22.4
Two adult females from Laysan (<i>G. a. candida?</i>).....	238	113.2	37.7	13	21
One adult female from Guam (<i>G. a. kirtlandi?</i>).....	230	112.5	36	13	22
One adult female from Aldabra (<i>G. a. monte?</i>).....	237	111.5	40	12	20

- Gygis candida* WAGLER, Isis, 1832, 1223.
Gygis candida SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 149, part (Krusenstern Island).—SNODGRASS and HELLER, Proc. Wash. Acad. Sci., iv, 1902, 511 (Cocos and Clipperton Islands; descr.; measurements; descr. nest).
Gygis alba candida MATHEWS, Birds of Australia, ii, pt. 4, Nov. 1, 1912, 443 (Christmas Island; Hawaiian group).
Sterna nivea BENNETT, Narrative Whaling Voy., i, 1840, 384 (Christmas Island, breeding).
[Gygis] alba (not *Sterna alba* Gmelin, 1788) LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 97 (Hawaiian Islands).
Gygis alba DOLE, Proc. Bost. Soc. N. H., 1869, 306 (Hawaiian Islands).—ROTHSCHILD, Avifauna Laysan, i, 1893, 35, pl. 3, fig. 11 (Laysan).—HENSHAW, Birds Hawaiian Isl., 1902, 126 (Laysan and Lisiansky islands, breeding).—GIFFORD, Proc. Calif. Acad. Sci., 4th ser., ii, pt. i, 1913, 32 (Tower Island, Galapagos; Oneal Rock, near Socorro Island; habits, measurements, etc.).
[Gygis] alba kittitzi (not of Hartert, 1900) BRYAN, Key to Birds Hawaiian Group, 1901, 9 (Laysan, etc.).
Gygis alba kittitzi FISHER (W. K.), Bull. U. S. Fish Com. for 1903, 17, pl. 4, figs. 13-17 (Laysan, etc., habits); Proc. U. S. Nat. Mus., xxvi, 1903, 562, in text (Necker Island).

Family LARIDÆ.

THE GULLS.

- = *Larinæ* BONAPARTE, Giornale Arcadico di Scienze, 1831, 58; Saggio distr. Anim. Vertebr., 1831, 59; Consp. Gen. Avium, ii, 1857, 211.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 837, 840.—CARUS, Handb. Zool., i, 1868, 361.—COUES, Proc. Ac. Nat. Sci., Phila., 1869, 214; Key N. Am. Birds, 1872, 310; 2d ed., 1884, 734, 739; Birds Northwest, 1874, 617.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 196, 197.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 86; 3rd ed., 1910, 35.—RIDGWAY, Man. N. Am. Birds, 1887, 23.—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, xiii, 4, 161.—BEDDARD, Struct. and Classif. Birds, 1898, 355.—SHARPE, Hand-list, i, 1899, xiv, 139.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 418.—KNOWLTON, Birds of the World, 1909, 386.
> *Larinæ* GADOW, in Bronn's Thier Reich, Vög., ii, 1891, 205 (includes Stercorariidæ).
> *Laridæ* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 191, 196 (includes Sternidæ).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 86; 3rd ed., 1910, (includes Sternidæ).
> *Laridæ* OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 3 (includes Sternidæ).
> *Longipennes* DUBOIS, Mém. Soc. Zool. France, iv, 1891, 116 (includes Sternidæ).

Small to very large Lari with the exposed culmen less than one and one-fourth times as long as tarsus (usually shorter than tarsus), the latter more than one-tenth (sometimes more than one-sixth) as long as wing; tail usually truncate or very slightly rounded, rarely (in two genera only) forked, still more rarely (in one genus only) cuneate or graduated; pterylosis not typically charadriine.

Bill moderately to strongly compressed, but exceedingly variable as to relative depth and width, the culmen always more or less decurved terminally, the tip of the maxilla overhanging or overreaching that of the mandible to a greater or less extent; gonys shorter (usually much shorter) than mandibular rami, the gonydeal angle more or less prominent, sometimes conspicuously so; nostrils lateral, near middle of maxilla or posterior to the middle, narrow, longitudinal, pervious, usually broader and rounded at anterior end, narrower and acute posteriorly; frontal feathering always advancing farther on sides of maxilla than at base of culmen, forming a prominent, usually obtuse but sometimes acute, angle in nearly direct line behind nostril. Primaries relatively shorter and broader and secondaries relatively longer than in Sternidæ. Tail usually truncate or very slightly rounded, rarely forked, still more rarely cuneate or graduated; when forked, the bifurcation only moderate, and the lateral rectrices instead of being attenuated as in most Sternidæ are broad and rounded at tips, like the middle ones. Tarsus distinctly compressed, the acrotarsium regularly transversely scutellate, the planta tarsi and sides of tarsus with small roundish or hexagonal scales (reticulate); upper surface of toes continuously transversely scutellate; anterior toes fully webbed; hallux usually well-developed though small, rarely (in one genus only) rudimentary or nearly obsolete.

The Laridæ are cosmopolitan in their range, though most numerous in both species and genera in the Northern Hemisphere. America possesses about thirty-five species, belonging to nine genera, of which only eight species and one genus are extralimital to the present work.

The birds of this family frequent the sea-coasts, estuaries, and larger inland waters. Their food consists of various marine animals (including fishes), offal, insects, garbage from vessels, and, in fact, anything eatable. They nest upon rocks, along beaches (behind the surf-line), and in marshes. Eggs several, variable as to ground-color, but always spotted.

KEY TO THE GENERA OF LARIDÆ.

- a. Exposed culmen decidedly more than two-thirds as long as tarsus; tail truncate, very slightly rounded, emarginate, or forked.
 - b. Hallux obsolete or rudimentary; tarsus shorter than middle toe without claw. *Bissa* (p. 564).
 - bb. Hallux well developed; tarsus longer than middle toe without claw.
 - c. Tail truncate or very slightly rounded.
 - d. Hallux joined to inner toe by a rugose or serrate membrane; tibia with less than lower third unfeathered.
 - e. Depth of bill at gonydeal angle much less than distance from anterior end of nostril to tip of maxilla and not greater than its depth at base; color of plumage entirely white (sparsely spotted with dusky in young). *Pagophila* (p. 575).

- ee. Depth of bill at gonydeal angle equal to or greater than distance from anterior end of nostril to tip of maxilla, and much greater than its depth at base; coloration of plumage with little if any white.

Leucophaeus (extralimital).^a

- dd. Hallux quite free from inner toe; tibia with lower third or more unfeathered.

- e. Bill very deep subterminally and compressed, its depth at the very prominent gonydeal angle greater than distance from anterior end of nostril to tip of maxilla and equal to about three times its transverse width or thickness at same point. *Gabianus* (extralimital).^b

- ee. Bill not notably deep and compressed, its depth at gonydeal angle less than distance from anterior end of nostril to tip of maxilla, and much less than three times its transverse thickness at same point.

- f. Bill very long and slender, the exposed culmen longer than middle toe with claw, its length from rictus greater than length of tarsus, its greatest depth less than half the distance from anterior end of nostril to tip of maxilla. *Gelastes* (extralimital).^c

- ff. Bill shorter or stouter (or both), the exposed culmen shorter than middle toe with claw, its length from rictus shorter than tarsus, its greatest depth more than half the distance from nostril to tip of maxilla.

- g. Adults with under parts wholly white, young with under parts white to medium grayish brown, but if the latter the color neither uniform nor very dark (sooty).

- h. Summer adults with head and neck wholly white; young with rump and upper tail-coverts always spotted or barred with grayish or dusky, the back, scapulars, and wing-coverts streaked and mottled with grayish brown and whitish or buffy. *Larus* (p. 580).

- hh. Summer adults with head black, gray, or brown, forming a conspicuous "hood" in contrast with white or pink of under parts; young with rump and upper tail-coverts immaculate white, the interscapulars, scapulars, and wing-coverts grayish brown margined (but not streaked nor mottled) with whitish or buffy.

- i. Very large (wing more than 450 mm.); bill very large and deep, strongly decurved terminally, the gonydeal angle very prominent; downy young unspotted. *Ichthyaetus* (extralimital).^d

^a *Leucophaeus* Bruch, Journ. für Orn., 1853, 108 (type, by original designation, *Larus scoresbii* Traill).—*Procellarus* Bonaparte, Naumannia, 1854, 211 (type, by original designation, *P. neglectus* Bonaparte=*Larus scoresbii* Traill).—*Epitelarus* Bonaparte, Naumannia, 1854, 211 (type, by original designation, *E.* [or *Procellarus*] *neglectus* Bonaparte=*Larus scoresbii* Traill).

Southern South America. (Monotypic.)

^b *Gabianus* Bruch, Journ. für Orn., 1853, 100 (ex Bonaparte, manuscript; type, by original designation and monotypy, *Larus pacificus* Latham).

Australia and Tasmania. (Monotypic.)

^c *Gelastes* Bonaparte, Naumannia, 1854, 212 (type, by tautonymy and original designation, *G. rubriventris* Bonaparte=*Larus gelastes* Thienemann).—*Lambruschinia* Salvadori, Cat. Ucc. Sardin., 1864, 128 (type, by original designation, *Larus gelastes* Thienemann).

Mediterranean, Caspian, and Red Seas, Persian Gulf, coasts of Africa, etc. (Monotypic.)

^d *Ichthyaetus* Kaup, Natürl. Syst., 1829, 102 (type, by original designation and tautonymy, *Larus ichthyaetus* Pallas).

Black Sea to India, Ceylon, etc. (Monotypic.)

- ii. Much smaller (wing less than 350 mm.); bill relatively much smaller, much less strongly (sometimes hardly at all) decurved terminally, the gonydeal angle much less prominent, downy young spotted.
- j. Tarsus longer (usually much longer) than middle toe without claw, decidedly to much longer than exposed culmen; primaries partly black "patterned;" summer adults with white spots above and below eyes, or a white orbital ring; larger (wing 247-348 mm.).....*Chroicocephalus* (p. 635).
- jj. Tarsus not longer than middle toe without claw, very slightly longer than exposed culmen; primaries without black "pattern;" summer adults without white about eye; very small (wing less than 225 mm.)*Hydrocoleus* (p. 649).
- gg. Adults with under parts wholly sooty brown or deep brownish gray (the head and neck sometimes white); young wholly sooty brown, the feathers of upper parts sometimes margined terminally or tipped with paler brown, whitish or buffy*Blastipus* (p. 652).
- cc. Tail forked.
 - d. Exposed culmen equal to or longer than tarsus, the latter not longer than middle toe with claw; bill deepest at base, distinctly decurved terminally; tail nearly half as long as wing, forked for about one-third its length; larger (wing 390-434, culmen 48.5-53); no black ring round neck.
Creagrus (p. 658).
 - dd. Exposed culmen decidedly shorter than tarsus, the latter decidedly longer than middle toe without claw; bill deepest at gonydeal angle, not decurved terminally; tail decidedly less than half as long as wing, forked for only about one-eighth its length; smaller (wing 260-285, culmen 25-28.5); summer adults with a black ring round upper neck. Xema (p. 662).
- aa. Exposed culmen very little if any more than two-thirds as long as tarsus; tail cuneate or graduated, the middle pair of rectrices longest and much longer than the lateral pair.....*Rhodostethia* (p. 668).

Genus RISSA Stephens.

Rissa STEPHENS, Shaw's Gen. Zool., xiii, 1826, 180. (Type, by monotypy, *R. brunnichii* Stephens=*Larus tridactylus* Linnaeus.)

Cheimonea KAUP, Nat. Syst. Eur. Thierw., 1829, 84, 196. (Type, *Larus tridactylus* Linnæus).

[?] *Polocandora* REICHENBACH, Nat. Syst. Vög., 1852 (1853), p. v. (Type not indicated.)

Medium-sized Laridæ (wing, 293-330 mm.) with hallux absent or rudimentary; tarsus much shorter than middle toe without claw, not serrate behind; tail truncate or slightly emarginate, and young with a black nuchal patch (in one species with a black area on lesser wing-coverts and black band across tip of tail).

Bill decidedly shorter than head (the exposed culmen decidedly shorter to very slightly longer than middle toe, without claw), rather stout, moderately compressed, the tip distinctly decurved, the culmen nearly straight basally but from above anterior end of nostril gradually curved to tip; gonys less than half as long as mandibular rami, slightly but distinctly concave, its moderately prominent basal angle much anterior to anterior end of nostril; nostril with anterior end much posterior to middle of maxilla. Wing long

and pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of the wing. Tail two-fifths as long as wing or a little more, truncate or slightly emarginate. Tarsus relatively short, much shorter than middle toe without claw (decidedly shorter to very slightly longer than exposed culmen), the planta tarsi not serrate or roughened; hallux absent or rudimentary, if present very minute and without claw; webs between anterior toes full, scarcely if at all emarginate anteriorly.

Coloration.—Adults with head, neck, rump, tail-coverts, tail, and under parts immaculate white; back, scapulars, and wings plain bluish gray, the primaries with black and white "pattern" on distal portion; in winter, the white of occiput, nape, and sides of chest overlaid or clouded with color of back; young with a black patch across hindneck, in one species with part of lesser wing-covert area and a band across tip of tail also black.

Range.—Circumpolar regions, south, in winter, to Mediterranean and Caspian Seas, Bermudas, and coasts of United States to about 35° N. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF *RISSA*.

- a. Without black on hindneck. (Adults.)
 - b. Legs and feet blackish; exposed culmen 34–49. (*Rissa tridactyla*.)
 - c. Hallux usually obsolete; smaller, except feet (averaging: Male, wing 312.7, tail 128.4, culmen 38.7, tarsus 34.1, middle toe 41.1; female, wing 299.4, tail 121.2, culmen 34.1, tarsus 31.5, middle toe 36.1). (Northern Atlantic and adjacent portions of Arctic Ocean.)...*Rissa tridactyla tridactyla* (p. 565).
 - cc. Hallux usually obvious, often distinct though minute; larger, except feet (averaging: Male, wing 323.6, tail 135.1, culmen 40, tarsus 33.9, middle toe 40.9; female, wing 320.6, tail 131.3, culmen 39.1, tarsus 33.7, middle toe 40). (Northern Pacific Ocean, Bering Sea, and adjacent waters.)
 - Rissa tridactyla pollicaris* (p. 571.)
 - bb. Legs and feet red (yellowish in dried skins); exposed culmen 28–31.5. (Bering Sea.).....*Rissa brevirostris* (p. 573).
- aa. With a black patch on hindneck. (Young.)
 - b. Anterior lesser wing-coverts and band across tip of tail black.
 - Rissa tridactyla tridactyla*, young (p. 566).
 - Rissa tridactyla pollicaris*, young (p. 571).
 - bb. Without any black on lesser wing-coverts or tail.
 - Rissa brevirostris*, young (p. 573).

RISSA TRIDACTYLA TRIDACTYLA (Linnaeus).

KITTIWAKE.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, wing-coverts, and secondaries plain light gray (between light and pale neutral gray), on the secondaries passing into white terminally; primaries paler gray (pale neutral gray), the five distal ones with their terminal portion black, this color extending for about 82–83 mm. on the outermost (the

outer web of which is almost wholly black) and 18–20 mm. on the fifth; proximal primaries pale neutral gray, scarcely paler terminally, the sixth (from outside) sometimes with a black subterminal spot on outer web, the fifth (from outside) tipped with white, the fourth sometimes also with a white terminal spot; bill pale yellow, more or less tinged with greenish; rictus and inside of mouth orange-red or vermilion (in life); iris dark brown; naked eye-ring orange-red or vermilion (in life); legs and feet black or olivaceous-black.

Winter plumage.—Similar to the summer plumage but occiput, nape, and hindneck (sometimes sides of chest also) washed with light or pale neutral gray, the auricular region and a spot immediately in front of eye darker gray or blackish gray, this color sometimes extending across occiput.

Young.—Similar to the winter plumage but hindneck crossed by a patch of black, anterior lesser wing-coverts with more or less of black, proximal lesser coverts and tertials black centrally, primary coverts and five outer primaries with outer webs black, tail crossed at tip (except on outermost rectrices) by a broad band of black (widest on middle rectrices), bill black, and legs and feet dusky brownish.

Downy young.—Head, neck, wings, and under parts immaculate white, the neck and base of wings more or less tinged with buff; back, rump, and flanks yellowish gray, the down darker basally.

Adult male.—Wing, 298–324 (312.7); tail, 126–130 (128.4); culmen, 38–39 (38.7); tarsus, 33–35 (34.1); middle toe, 39.5–43 (41.1).^a

Adult female.—Wing, 293–306 (299.4); tail, 114.5–126 (121.2); culmen, 34–34.5 (34.1); tarsus, 31–32 (31.5); middle toe, 37–39 (38.1).^b

^a Four specimens.

^b Five specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Spitzbergen.....	323	130	39	34	41
One adult male from Norway.....	298	128.5	39	33	39.5
One adult male from Davis Strait.....	306	126	39	35	41
One adult male from Maine (December).....	324	129	38	34.5	43
Eleven adult males of <i>R. t. pollicaris</i>	323.6	135.1	40	33.9	40.9
Ten adult males of <i>R. brevirostris</i>	311.6	125.4	29.4	30.1	38.3
FEMALES.					
Two adult females from France.....	301.5	123	34.2	31.2	37.7
One adult female from Orkneys.....	293	114.5	.....	32	36
One adult female from Cumberland Gulf.....	298	126	34	32	39
One adult female from New Hampshire (January).....	303	119.5	34	31	37
Five adult females of <i>R. t. pollicaris</i>	320.6	131.3	39.1	33.7	40
Nine adult females of <i>R. brevirostris</i>	312.9	125.7	29.7	29.8	38.3

Breeding in Arctic and Subarctic Europe and Asia, and North America eastward of Mackenzie River, northward to northern Greenland (Thank God Harbor), Ellesmere Island (Cape Union), north of Wellington Channel, lat. 77° N., Melville Island (Winter Harbor), Grinnell Land (Fort Conger), Jan Mayen Land, Franz Josef Land, Spitzbergen, and other islands in Arctic Ocean, where it has been observed as far northward as lat. 84° 52', southward to coast of Mackenzie (Franklin Bay), southern Greenland, Quebec (Godbout; Point de Monts), islands in Gulf of St. Lawrence (Anticosti; Magdalen Islands), Shetland Islands, northwestern France, and mainland of Arctic Europe and Asia; migrating southward, regularly, to New England coast, Long Island Sound, coast of New Jersey (Long Branch; Atlantic City), and Bermudas, irregularly or casually to Vermont (Enosburg Falls, Nov. 12, 1906), New York (Oak Orchard, Orleans County, April 10, 1881; Auburn, Jan. 4, 1854; Oneida Lake, Nov. 9, 1890; Seneca Lake; Constantia, Oswego County, Nov. 9, 1890), Pennsylvania (Lancaster; Erie, Oct. 17, 1900), Ontario (Toronto, Oct. 31, 1899, and Nov., 1899), northeastern Illinois (near Chicago, Dec. 9, 1896), Michigan (Neebish Island), Missouri (Kansas City, 1897), Colorado (Boulder, Dec.), and Wyoming (Douglas, Nov. 18, 1898); in Eastern Hemisphere migrating southward to Canary Islands, Madeira, Azores, and shores of Mediterranean, Black, and Caspian Seas.

[*Larus tridactylus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 136 (Great Britain?); ed. 12, i, 1766, 224.—GMELIN, Syst. Nat., i, pt. ii, 1789, 596.—LATHAM, Index Orn., ii, 1790, 817.—REINHARDT, Journ. für Orn., 1854, 443 (Greenland).—MARTENS, Journ. für Orn., 1859, 222 (Bermudas).—COUES, Key N. Am. Birds, 1872, 314.

Larus tridactylus MÜLLER, Natursyst., Suppl., 1776, 344.—FABRICIUS, Fauna Groenlandica, 1780, 98.—RETZIUS, Fauna Suecica, 1780, 154.—MOHR, Island. Naturh., 1786, 41.—BECHSTEIN, Naturg. Deutschl., ii, 1791, 804.—MEYER and WOLF, Taschenb. Deutschl., ii, 1810, 486.—TEMMINCK, Man. d'Orn., 1815, 502; 2d ed., 1820, 774.—MEISNER and SCHINZ, Vög. Schweiz, 1815, 275.—MEYER, Vög. Liv-u. Esthl., 1815, 236.—NILSSON, Orn. Suecica, ii, 1817, 174.—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 503; Faune Franç., Ois., 1828, 390.—O'REILLY, Greenland, 1818, 143.—SABINE (E.), Trans. Linn. Soc., xii, 1819, 549 (Greenland); in Parry's First Voy., Suppl., 1821, p. ccv (Davis Strait).—LEACH, in Ross's Voy. Baffin Bay, 4to ed., App., ii, 1819, p. liii.—SABINE (J.) in Franklin's Polar Sea, App., 1823, 695 (Hudson Bay).—BREHM, Lehrb. Eur. Vög., 1823, 705.—ROSS (J. C.), in Parry's Third Voy., App., 1826, 105 (North Somerset Land); in Parry's Fourth Voy., App., 1828, 195 (lat. 82½°, beyond Spitzbergen).—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 359.—WERNER, Atlas, Palmipèdes, 1828, pl. 25.—SAVI, Orn. Tosc., iii, 1831, 70.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 423.—MÉNÉTRIÉS, Cat. Rais. Cauc., 1832, 56.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 298.—JENYNS, Man. Brit. Verteb., 1835, 274.—AUDUBON, Orn. Biog., iii, 1835, 186, pl. 224; Synopsis, 1839, 326; Birds Am., 8vo ed., vii, 1844, 146, pl. 444.—NAUMANN, Vög. Deutschl., x, 1840, 322, pl. 262.—SCHINZ, Eur. Fauna., 1840, 385.—

- CRESSON, Orn. Gard, 1840, 487.—NORDMANN, in Dénidoff, Voy. Russ. Mérid., iii, 1840, 281 (Odessa, 1 spec.).—SELYS-LONGCHAMPS, Faune Belge, 1842, 153.—YARBELL, Hist. Brit. Birds, iii, 1843, 444; 2d ed., iii, 1845, 562.—SCHLEGEL, Rev. Crit., 1844, p. cxxvi; Vog. Nederl., 1854, 599, pls. 350, 351; Dier. Nederl. Vogels, 1861, 236; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 30.—DEKAY, Zool. New York, ii, 1844, 361.—HEWITSON, Eggs Brit. Birds, ii, 1846, 439, pl. 124.—JARDINE, Contr. Orn., 1849, 86 (Bermudas).—DEGLAND, Orn. Eur., ii, 1849, 316.—HURDIS, in Jardine's Contr. Orn., 1850, 13 (Bermudas. March, 1849, several).—THOMPSON, Birds Ireland, iii, 1851, 340.—KJÆR-BÖLLING, Danm. Fugle, 1852, 338, pl. 41.—BAILY, Orn. Savoie, iv, 1854, 316.—HEUGLIN, Journ. für Orn., 1857, 103 (n. Europe); Ibis, 1872, 65 (w. coast Novaya Zemlya).—ARMSTRONG, N. W. Pass. 'Investigator,' 1857, 347 (Prince Albert Land).—JONES, Naturalist in Bermuda, 1859, 92.—BLAND, An. Rep. Smithsonian. Inst., 1859, 289 (Bermudas).—LINDERMAYER, Vög. Griechenl., 1860, 174.—MÜLLER, Vid. Medd., 1862 (1863), 70 (Faroe Islands).—WRIGHT, Ibis, 1864, 151 (Malta); 1874, 238 (Malta).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 428.—MALMGREN, Oefv. K. Vet.-Ak. Stockholm, 1863, 104; 1864, 387 (Spitzbergen).—DROSTE, Journ. für Orn., 1869, 386 (Faroes).—GRAY, (R.) Birds West Scotland, 1871, 478.—HEUGLIN, Ibis, 1872, 65 (Novaya Zemlya).—GODMAN, Ibis, 1872, 222 (Teneriffe, Canary Islands).—HARTING, Handb. Brit. Birds, 1872, 77.—COUES, Check List, 1873, no. 552.—FINSCH, Abh. Nat. Ver. Bremen, v, 1873, 366 (s. Greenland).—PALMÉN, Finlands Fogl., 1873, 608.—SUNDEVALL, Oefv. K. Vet.-Ak. Stockholm, 1874, 21 (Spitzbergen).—BESSELS, Bull. Soc. Geogr. Paris, 1875, 296 (Thank God Harbor); Amerik. Nordpol-Exp., 1879, 312 (Smith Sound, lat. 81° 40' N.).—MERRELL, Birds Conn., 1877, 132.—RATHBUN (F. R.), Rev. List Birds Centr. N. Y., 1879, 41 (Seneca Lake, 1 spec.).—SERBOHM, Ibis, 1879, 24; 1882, 365 (Archangel, Russia); Hist. Brit. Birds, iii, 1885, 340.—RODD, Birds Cornwall, 1880, 169.—COLLINS, Rep. U. S. Com. Fisheries for 1882 (1884), 330 (Grand Banks, etc.; habits).—RADDE, Orn. Caucas., 1884, 479 (Caspian Sea?).—WALTER, Journ. für Orn., 1890, 240-250 (e. Spitzbergen).—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 334.—GÄTKE, Vogelw. Helgoland, 1891, 575.—JÄCKEL and BLASIUS, Vög. Bayerns, 1891, 359.—CLARKE (W. E.), Ibis, 1899, 48 (Whale Point Harbor, etc., Spitzbergen; breeding on Ryk-ys and King Charles islands).
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- [*Gavia*] *tridactylus* BOIE, Isis, 1822, 563.
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- [*Cheimonea*] *tridactyla* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 360.
- Laroides tridactylus* BREHM, Vög. Deutschl., 1831, 754.
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- [*Rissa*] *tridactylus* BRUCH, Journ. für Orn., 1853, 103 (monogr.); 1855, 284 (monogr.).—BONAPARTE, Conspect. Av., ii, 1857, 225.
- Rissa tridactylus* HARTERT and GRANT, Novit. Zool., xii, 1905, 102 (San Miguel, Azores).
- [*Rissa tridactyla*] *α. tridactyla* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 202.
- Rissa tridactyla tridactyla* HANTZSCH, Journ. für Orn., July, 1908, 321 (Labrador). AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, 35.—(?) THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 9, in text (Chuan Bay, e. Siberia, breeding).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 16, fig. 6 (range and migrations).
- Larus (Rissa) tridactylus* DROSTE, Vogelw. Borkum, 1869, 344.—HEUGLIN, Journ. für Orn., 1872, 125 (Arctic Europe).—COUES, Birds Northwest, 1874, 644.
- Rissa trydactyla* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 247 (Eskimo Bay, Labrador, Aug.).
- Xema tridactylum* JAUBERT and BARTHELEMY-LAPOMMERAYE, Rich. Orn. Fr., 1859, 393.
- [*Larus*] *rissa* BRÜNNICH, Orn. Bor., 1764, 42 (Iceland and Christiansoe Island, Norway; occurs also near Hafnia).—LINNÆUS, Syst. Nat., ed. 12, i, 1766, 224.
- Larus rissa* PHIPPS, Voy. North Pole, App., 1774, 187.—BECHSTEIN, Naturg. Deutschl., ii, 1791, 804.—LEACH, Syst. Cat. Brit. Mus., 1816, 40; in J. Ross's Voy. Baffin Bay, 8vo ed., ii, App., 1819, 159.—SCORESBY, Arctic Voy., i, 1820, 534.—FLEMING, Brit. Anim., 1828, 141.—SELBY, Brit. Birds, ii, 1833, 493, pl. 94.—GOULD, Birds Europe, v, 1837, pl. 435 and text.—MEYER, Brit. Birds, vii, 1857, 139, pl. 305.—HUXLEY, Proc. Zool. Soc. Lond., 1867, 430, fig. 2 (skull).
- Rissa rissa* SHARPE, Hand-list, i, 1899, 143, part.
- Rissa rissa rissa* SCHALOW, Vögel der Arktis, 1904, 138 (synonymy, range, etc.).
- Laroides rissa* BREHM, Vög. Deutschl., 1831, 755.
- [*Larus*] *nævius* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 225 (Europe).—SCHÄFFER, Mus. Orn., 1789, 64.
- Larus albus* (not of Gunnerus, 1767) MÜLLER, Natursystems, Suppl., 1776, 106 (based on *Mouette cendrée tachetée* Brisson, Orn., vi, 1760, 185, pl. 17, fig. 2).
- Larus cinerarius* (not of Linnæus) FABRICIUS, Fauna Groenlandica, 1780, 101 (=winter plumage).
- [*Larus*] *riga* GMELIN, Syst. Nat., i, pt. ii, 1789, 594 (Boreal America, Europe, and Asia; founded on *Larus rissa* Brünnich, Orn. Bor., 1764, 42, no. 140, etc.).

Larus riga LESSON, Traité d'Orn., 1831, 619.

Larus torquatus PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 328 (Baltic and White Seas).

Larus gavia PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 329 (Baltic and White Seas).

Rissa brünnichii STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 181, pl. 21 (Arctic Circle).

Laroides minor BREHM, Vög. Deutschl., 1831, 756 (n. Europe).

Rissa minor BREHM, Vogelf., 1855, 341 (Europe); Naumannia, 1855, 294.

Rissa cinerea EYTON, Cat. Brit. Birds, 1836, 52.

Risa borealis BREHM, Vogelf., 1855, 341 (Greenland, rare in Europe); Naumannia, 1855, 294.

Rissa gregaria BREHM, Vogelf., 1855, 341 (Europe); Naumannia, 1855, 294.

RISSA TRIDACTYLA POLLICARIS Stejneger.

PACIFIC KITTIWAKE.

Similar to *R. t. tridactyla*, but hallux rarely obsolete, usually distinct often with an obvious claw; black on outer webs of second and third primaries (from outside) usually extending not so far along edge from tips, and size averaging decidedly larger (except feet).

Adult male.—Wing, 309–330 (323.6); tail, 125–142 (135.1); exposed culmen, 38–42 (40); tarsus, 31–36 (33.9); middle toe, 39–45 (40.9).^a

Adult female.—Wing, 313–327 (320.6); tail, 127–135.5 (131.3); exposed culmen, 36–43 (39.1); tarsus, 32–35 (33.7); middle toe, 39–42 (40).^b

Breeding on islands and coasts of Bering Sea and adjacent portions of Arctic and northern Pacific Oceans, northeastward to Herald Island, Cape Lisburne, Icy Cape, and Point Barrow (rarely), southward to Cook Inlet (Seldovia)—probably to Yakutat Bay—Shumagin Islands and more eastern Aleutian Islands, Alaska, and Commander Islands, Kamchatka, westward, along Arctic coast, to Koliutschin Islands and Chaun Bay, Siberia; migrating southward to southern California (San Diego Bay), Lower California (San Gerónimo Island; Los Coronados Islands), and Japan (Yezo; Tokyo; Saghalin Island, July; Kuril Islands).

Larus ryssa (not *L. rissa* Brünnich, 1764) PALLAS, Spicil. Zool., v, 1769, 28.

Larus rissa PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 321 (Kamchatka).

[*Rissa*] *rissa* SHARPE, Hand-list, i, 1899, 143, part.

Larus tridactylus (not Linnaeus) KITTLITZ, Isis, 1832, 1104 (n. w. North America); Denkw. Reise Russ. Am. Mikron. and Kamtschatka, i, 1858, 248; ii, 1858, 225.—COINDE, Rev. et Mag. de Zool., 1860, 401 (Aleutian Islands).—BLAKISTON and PRYER, Ibis, 1878, 217 (Yezo and Tokyo, Japan).—ADAMS, Ibis, 1878, 440 (St. Michaels, Alaska; habits).—SEEBOHM, Ibis, 1879, 24; 1884, 32 (Kuril Islands); Birds Japanese Emp., 1890, 294.—BLAKISTON, Amend. List Birds Japan, 1884, 34.—SCHALOW, Journ. für Orn., 1891, 263 (Sitka, Alaska).

^a Eleven specimens.

^b Five specimens.

- Rissa tridactyla* DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 305 (Sitka, Amak, etc., Alaska; Plover Bay, Siberia).—FINSCH, Abh. Nat. Ver. Brem., iii, 1872, 84 (Alaska).—DALL, Proc. Calif. Ac. Sci., v, 1873, 32 (Shumagin Islands, Alaska; habits).—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, viii, 1880, 190; x, 1882, 105.—TACZANOWSKI, Bull. Soc. Zool. France, 1883, 398 (Kamchatka, etc.); Mém. Acad. St. Petersb., xxxix, 1893, 1049 (e. Siberia).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 305, 458, part, [*Rissa*] *tridactyla* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58, part (Kamchatka).
- [*Larus* (*Rissa*)] *brachyrhynchus* (not *Larus brachyrhynchus* Richardson, 1831, nor Gould, 1843) BRUCH, Journ. für Orn., 1853, 103 (North America).
- Rissa brachyrhyncha* TACZANOWSKI, Bull. Soc. Zool. France, 1876, 264; Orn. Faun. Vost. Sibir., 1877, 65.
- Rissa nivea* (not of Gray, 1845) BONAPARTE, Naumannia, 1854, 212 (*nomen nudum*). [*Larus* (*Rissa*)] *niveus* BRUCH, Journ. für Orn., 1855, 285 (excl. syn.).
- [*Rissa*] *kotzebui* (not of Bonaparte, 1854!) BONAPARTE, Consp. Av., ii, 1857, 226.
- Rissa kotzebui* COUES, Proc. Ac. Nat. Sci. Phila., 1862, 305 (monogr.).—ELLIOT, Illustr., New and Unfig. N. Am. Birds, pt. 11, 1868, pl. 53, left-hand fig., and text.—STEJNEGER, Proc. U. S. Nat. Mus., 1883, 60.
- [*Rissa*] *kotzebui* GRAY, Hand-list, iii, 1871, 117, no. 11019.
- [*Larus tridactylus*] var. *kotzebui* COUES, Key N. Am. Birds, 1872, 314.
- Larus tridactylus* . . . var. *kotzebui* COUES, Check List, 1873, no. 552a.
- Larus tridactylus* var. *kotzebui* COUES, Birds Northwest, 1874, 646; in Elliott's Affairs in Alaska, 1875, 199 (Pribilof Islands).—ELLIOTT, Mon. Pribylov Group, 1882, 132 (breeding; very numerous).
- Rissa tridactyla kotzebui* RIDGWAY, Cat. Aquat. and Fish-eating Birds, May, 1883, 29.
- Rissa tridactyla kotzebui* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 206 (Cat. N. Am. Birds, no. 658a); Nom. N. Am. Birds, 1881, no. 658a.—BRAN, Proc. U. S. Nat. Mus., 1882, 167 (Bering Sea).—NELSON, Cruise 'Corwin' in 1881 (1883), 105 (rocky shores Bering Sea; habits).—GOSS, Auk, ii, 1885, 222 (Port Townsend, Washington, March 2, 1882).—SOUTHWICK and JENCKA, Auk, ii, 1885, 313 (Nicasio, California).
- [*Rissa*] *kotzebui* BONAPARTE, Compt. Rend., xlii, 1856, 771.
- Rissa tridactyla kotzebui* COUES, Check List, 2d ed., 1882, no. 783.
- [*Rissa*] [*tridactyla*] *kotzebui* COUES, Key N. Am. Birds, 2d ed., 1884, 748.
- Larus kotzebui* NELSON, Bull. Nutt. Orn. Club, v, Jan., 1880, 35, in text (St. Michaels, Alaska).
- [*Rissa tridactyla*] b. *pollicaris* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 202 (no type-locality indicated and no diagnosis; but intended as subspecific designation of the North Pacific form; ex Stejneger, manuscript).
- Rissa tridactyla pollicaris* STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 78 (Commander Islands, Kamchatka, breeding; crit., etc.).—TURNER, Auk, ii, 1885, 153 (Nearer Islands, Alaska); Contr. N. H. Alaska, 1886, 124 (St. Michaels, etc., habits).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 40a; 3rd ed., 1910, p. 36.—NELSON, Rep. N. H. Coll. Alaska, 1887, 49 (habits).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 98 (Pribilof Islands; Otter Island).—PALMÉN, 'Vega'-Exped., Bd. v, 1887, 361 (Bering Sea).—RIDGWAY, Proc. U. S. Nat. Mus., xvi, 1893, 663 (Middleton I., Alaska).—TACZANOWSKI, Mém. Acad. St. Petersb., xxxix, 1893, 1052 (e. Siberia).—ANTHONY, Auk, xii, 1895, 177 (San Diego, California, Feb.); xv, 1898, 267 (San Geronimo Island, Lower California; regular but not common winter visitant off San Diego and about Los Coronados Islands).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 9 (breeding westward to

- Koliuchin Islands, n. e. Siberia); Auk, xxxix, 1916, 44 (Saghalin Island; Japan, July).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 19, fig. 6 (range and migrations).—GRINNELL (J.), Pacific Coast Avif., no. 11, 1915, 21 (winter visitant, south to San Diego).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 375 (Commander Islands and e. coast Kamchatka, May; e. coast Siberia; Bering Straits).—GIANINI, Auk, xxxiv, 1917, 397 (Stepovak Bay, Alaska Peninsula, breeding).
- Rissa tridactyla pollicaris* RIDGWAY, Man. N. Am. Birds, 1887, 25.
- Rissa tridactyla (pollicaris?)* LAWRENCE (R. H.), Auk, ix, 1892, 353 (Gray's Harbor, Washington, flock, Feb. 12).
- Larus (Rissa) tridactylus . . . pollicaris* PALMÉN, 'Vega' Exped., v, 1887, 358 (n. e. Siberia).
- Rissa pollicaris* STEJNEGER, Auk, v, July, 1888, 310, in text.—GRINNELL, Pacific Coast Avifauna, no. 3, June, 1902, 11 (California range).
- Rissa brevirostris* (not of Brandt) LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 855, part.
- Larus canus* (not of Linnæus) LINTON, Condor, ix, 1907, 110 (Alamitos Bay, Los Angeles Co., California, April 14).

RISSA BREVIROSTRIS (Bruch).

RED-LEGGED KITTIWAKE.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts immaculate pure white; back, scapulars, and wings plain neutral gray, the secondaries broadly tipped with white; outermost primary with outer web black, the next mostly (sometimes wholly) black, the next three black subterminally (the black decreasing from about 63–64 mm. on the third to about 19 mm. on the fifth), the tip of each gray, like back, etc.; proximal primaries neutral gray, their inner webs broadly edged, their outer webs tipped with white, the sixth (from outside) usually with a black subterminal spot on outer web; bill lemon or chrome yellow, slightly tinged with greenish terminally; rictus and inside of mouth orange-red or vermilion (in life); iris dark brown; naked eye-ring vermilion red (in life); legs and feet vermilion red (yellowish in dried skins).

Winter plumage.—Similar to the summer plumage, but hindneck tinged with neutral gray and auricular region with a transverse spot or bar of the same.

Young.—Similar to adults but nape crossed by a broad band of grayish black or blackish slate, auricular region with a transverse spot or band of the same, and a suffusion of blackish in front of eye; primary coverts and outer webs of three or four outer primaries black, but no other black on wings and none on tail; bill black or dusky; legs and feet brownish.

Downy young.—Head, neck, wings and under parts immaculate white, the neck and base of wings more or less tinged with buff; back, rump, and flanks yellowish gray, the down darker basally. (Apparently identical in coloration with the same stage of *R. tridactyla*.)

Adult male.—Wing, 300–321 (311.6); tail, 119–132 (125.4); exposed culmen, 28–31.5 (29.4); tarsus, 28–32.5 (30.1); middle toe, 38–41 (39.3).^a

Adult female.—Wing, 304–325 (312.9); tail, 114–132.5 (125.7); exposed culmen, 29–30.5 (29.7); tarsus, 29–30.5 (29.8); middle toe, 36.5–42 (39.3).^b

Breeding on Pribilof Islands, western Aleutian (Nearer) Islands, Alaska, and Commander Islands, Kamchatka; occurring also on Otter Island (June 12–14, 1885) and St. Matthew Island, Bering Sea; occasional or casual at St. Michaels, Alaska (1 specimen, Sept. 18, 1876), and accidental in Yukon Territory (Forty Mile, Oct. 12, 1899); winter range unknown.

Larus brachyrhynchus (not of Richardson, 1831) GOULD, Proc. Zool. Soc. Lond., 1843 (pub. Dec., 1843), 106 ("Russian America"); Zool. Voy. 'Sulphur,' 1844, 50, pl. 34.—FINSCH, Abh. Nat. Ver. Brem., iii, 1872, 84 (Sitka, Alaska).

R[issa] brachyrhyncha BONAPARTE, Consp. Av., ii, 1857, 226.

Rissa brachyrhyncha COUES, Proc. Ac. Nat. Sci. Phila., 1862, 306 (monogr.)

[*Rissa*] *brachyrhyncha* GRAY, Hand-list, iii, 1871, 117, no. 110:8.

Rissa nivea (not *Larus niveus* Pallas) GRAY, List Birds Brit. Mus., Anseres, 1844, 174.—REICHENBACH, Novit. Natat., 1850, pl. 269, fig. 2254.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 855.—BAIRD, Cat. N. Am. Birds, 1859, no. 675.—ELLIOT, New and Unfig. N. Am. Birds, pt. ii, 1868 (vol. ii), pl. 53, right-hand fig., and text.

R[issa] nivea GRAY, Gen. Birds, iii, 1846, 655.

[*Rissa*] *nivea* BONAPARTE, Compt. Rend., xlii, 1856, 771.

[*Rissa*] *niveus* BRUCH, Journ. für Orn., 1855, 285 (monogr.).

[*Larus*] *brevirostris* BRUCH, Journ. für Orn., 1853, 103 (northwestern America).—COUES, Key N. Am. Birds, 1872, 315.

Larus brevirostris COUES, Check List, 1873, no. 353; in Elliott's Affairs in Alaska, 1875, 199.—ELLIOTT, Monogr. Pribylov Group, 1882, 133 (breeding; habits).

Larus (Rissa) brevirostris BRUCH, Journ. für Orn., 1853, 285.—COUES, Birds Northwest, 1874, 646.

[*Rissa*] *brevirostris* BRUCH, Journ. für Orn., 1855, 285.—SHARPE, Hand-list, i, 1899, 143.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.

Rissa brevirostris LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 855.—BAIRD, Cat. N. Am. Birds, 1859, no. 674.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 305 (St. George Island, Pribilof group).—FINSCH, Abh. Nat. Ver. Brem., iii, 1872, 85 (n. w. coast of America).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 164 (monogr.); Journ. Linn. Soc., xiv, 1878, 394 (range); Cat. Birds Brit. Mus., xxv, 1896, 312.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 206 (Cat. N. Am. Birds, no. 659); Nom. N. Am. Birds, 1881, no. 659.—COUES, Check List, 2d ed., 1882, no. 784.—NELSON, Cruise 'Corwin' in 1881 (1883), 105 (Aleutian and Pribilof Islands; St. Matthew Island); Rep. N. H. Coll. Alaska, 1887, 50 (habits).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 207.—STEJNEGER, Proc. U. S. Nat. Mus., vi, 1883, 60 (Bering Island); Auk, i, 1884, 358 (not occurring on Okotsk Sea); Bull. U. S. Nat. Mus., no. 29, 1885, 82 (Commander Islands, Kamchatka, breeding).—TURNER, Auk, ii, 1885, 158 (Attu Island, Aleutians, breeding); Contr. N. H.

^a Ten specimens.

^b Nine specimens.

- Alaska, 1886, 124 (Aleutians and Pribilof Islands; St. Michaels, 1 spec., Sept. 18, 1876).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 41; 3rd ed., 1910, p. 36.—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 98 (Pribilof Islands; Otter Island).—TACZANOWSKI, Mém. Ac. St. Petersb., xxxix, 1893, 1053 (c. Siberia).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 35 (near Unalaska Island; western Aleutians; Commander Islands).—COOKE, Bull. 292, U. S. Dept. Agric., (Biol. Surv.), 1915, 21, fig. 7 (range and migrations).
- Rissa brevirostris* DALL, Proc. Calif. Acad. Sci., v, 1873, 32 (Pribilof Islands).—COUES, Key N. Am. Birds, 2d ed., 1884, 748.—RIDGWAY, Man. N. Am. Birds, 1887, 25.
- [*Larus* (*Laroides*)] *citrirostris* "Schimper" BRUCH, Journ. für Orn., 1855, 284 (Kamchatka).
- [*Rissa*] *kolzevii* BONAPARTE, Naumannia, 1854, 212 (western North America; California).
- Larus warnecki* COINDE, Rev. et Mag. de Zool., 1860, 401 (St. Paul Island, Bering Sea).

Genus PAGOPHILA Kaup.

- Gavia* (not of J. R. Forster, 1788) BOIE, Isis, 1822, 563. (Type, *Larus eburneus* Phipps=*L. albus* Gunnerus.)
- Pagophila* KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, 69. (Type, by monotypy, *Larus eburneus* Phipps=*L. albus* Gunnerus.)
- Cetosparctes* MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 251. (Type, *Larus eburneus* Phipps=*L. albus* Gunnerus.)

Medium-sized Laridæ (wing 300–362 mm.) with tarsus larger than middle toe without claw, roughly granulated or almost serrate behind, the scutella on front (as well as those of toes) large and prominent; webs of feet deeply incised; longer primaries attenuated and subfalcate terminally, and color wholly pure white in adults, sparsely spotted with blackish in young.

Bill much shorter than head (the exposed culmen usually a little shorter, rarely slightly longer, than tarsus), relatively stout, very slightly compressed; culmen nearly straight or even faintly concave basally, gradually decurved from above middle of nostril; gonys half as long as mandibular rami or slightly more, straight, ascending terminally, its basal angle prominent; nostril relatively large, its broader anterior end slightly posterior to gonydeal angle. Wing long and pointed, the longest primary (outermost) exceeding tertials by considerably more than half length of wing, the longer primaries attenuated and subfalcate terminally. Tail more than two-fifths as long as wing, truncate. Tarsus longer than middle toe without claw, about as long as exposed culmen (usually a little longer, rarely slightly shorter), stout, the transverse scutella of acrotarsium large and prominent, the planta tarsi roughly granulated or almost serrate; anterior toes with thick and prominent transverse scutella, the lateral ones with roughly granulated outer edges, the connecting webs of anterior toes rather deeply incised; hallux well-developed (rather large for the

family), with well-developed, rather large, claw; claws of anterior toes large and strongly curved; bare portion of tibia very short, including only the extreme lower portion.

Coloration.—Adults (at least in summer) entirely immaculate white; young (and winter adults?) white, sparsely spotted with dusky.

Range.—Circumpolar regions, south in winter to British Islands, France, Long Island, Lake Ontario, British Columbia, etc. (Monotypic.)

PAGOPHILA ALBA (Gunnerus).

IVORY GULL.

Adults in summer (sexes alike).—Entirely immaculate white, the shafts of primaries yellowish; bill greenish gray or olivaceous (drying more dusky) basally (as far as anterior end of nostrils), the terminal portion yellow (sometimes tinged with red or orange), the tomsia yellowish or horn color; iris dark brown; bare orbital ring brick red or vermillion; legs and feet black.

Winter plumage.—(Undetermined or undescribed.)

Young.—Similar to adults, but anterior portion of head grayish brown or brownish gray, primary coverts, primaries, tertials, longer scapulars, and rectrices with a terminal or subterminal spot of dusky, and lesser wing-coverts with small central spots of the same; bill blackish, clouded with pale yellowish.

Downy young.—Entirely pure white, even to the base of the down.

Adult male.—Wing, 318–362 (333.6); tail, 128.5–156.5 (137.4); exposed culmen, 31–36 (34.9); tarsus, 33–38 (35.8); middle toe, 29.5–36 (33.7).^a

Adult female.—Wing, 300–327 (315.7); tail, 133–137 (135); exposed culmen, 33–34 (33.3); tarsus, 35–39 (36.3); middle toe, 31.5–34.5 (33).^b

^a Five specimens.

^b Three specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from southern Greenland.....	318	128.5	31	33	29.5
Two adult males from head of Cumberland Gulf.....	332.5	136.5	36.2	36.2	35
One adult male from Quebec (Godbout, December).....	323	129	35	35.5	34
One adult male from Bering Island, Kamchatka.....	362	156.5	36	38	35
FEMALES.					
One adult female from off northeast Greenland.....	300	137	34	35	31.5
Two adult females from head of Cumberland Gulf.....	323.5	134	33	37	33.7

Breeding on islands in Arctic Ocean, chiefly northward of Europe and Asia, where noted as far northward as lat. 85°; in Arctic America breeding from Prince Patrick Island, Melville Island (Winter Harbor), Ellesmere Land, and northwestern Greenland (Thank God Harbor; Rensselaer Bay) to coast of northern Mackenzie (Darnley Bay) and northern Baffin Land (Port Bowen); in Arctic Asia breeding on Polynia Island, Spitzbergen, etc.; migrating southward in winter as far as British Columbia (Dease Lake, Sept., 1889; Penticton, Oct., 1897; Okanagan Lake, Nov. 1, 1907), Pribilof Islands (St. George Island, 1 specimen), Kowak River, and Point Barrow (Oct., Sept.), Alaska; Commander Islands, Kamchatka (Bering Island, Dec. 2, 1875), Ontario (Toronto, Dec. 15, 1887), Quebec (Point de Monts, April, 1877), New Brunswick (St. Johns, Nov., 1880; Grand Menan), coast of Labrador (Okak; Rigolet), Nova Scotia (Halifax), Maine (Penobscot Bay, Dec., 1894), Massachusetts (Monomoy Island, Dec. 1, 1886), and Long Island (Sayville, Jan. 5, 1893); in Europe southward (casually) to Iceland, Farøe Islands, northern France, Switzerland (Lake Léman), northern Russia (Archangel), etc.

[?] *Larus albus* GUNNERUS, in Leem's Beskr. Finna. Lapper, 1767, 285 (northern Norway).^a

Larus albus SCHAEFFER, Mus. Orn., 1789, 65, pl. 42.

Gavia alba STEINBEGER, Proc. U. S. Nat. Mus., v, June 5, 1882, 39 (crit. nomencl.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 39.—NELSON, Rep. N. H. Coll. Alaska, 1887, 49 (Point Barrow; Murchison Bay, Spitzbergen, breeding).—GRIEGLY, Rep. Exped. Lady Franklin Bay, ii, 1888, 22.—BENDIRE, Auk, v, 1888, 202 (Storen, n. coast Spitzbergen, breeding; descr. eggs).—CHAMBERLAIN, Auk, 1889, 213 (s. Greenland).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 62.—HAGERUP, Birds Greenland, 1891, 46.—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 148, 149 (Melville Bay, July; measurements, etc.).—TACZANOWSKI, Mém. Acad. St. Petersburg., xxxix, 1893, 1055 (e. Siberia and s. to Petropaulski, Kamchatka).—DUTCHER, Auk, xii, 1895, 290 (Great South Bay, Long Island, Jan. 5, 1893).—SCHALOW, Journ. für Orn., 1899, 380 (Spitzbergen, breeding; descr. eggs); Vögel der Arktis, 1904, 135 (synonymy, range, etc.).

[*Gavia*] *alba* RIDGWAY, Man. N. Am. Birds, 1887, 24.

[*Gavia*] *alba* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 360.

Pagophila alba COUES, Auk, xiv, July, 1897, 313.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xvi, 1899, 99; Check List, 3d ed., 1910, p. 35.—EIFRIG, Auk, xxii, 1905, 235 (Cape Fullerton, Sept. 22, 1904).—FLEMING, Auk, xxiii, 1906, 442 (Toronto, Ontario, Dec. 15, 1887).—PREBLE, North Am. Fauna, no. 27, 1908, 262 (breeding at Port Bowen and Darnley Bay, Arctic America; Waiter Harbor, Melville Island, May; Assistance Harbor, Wellington Channel, Sept.).—KERMODE, Provincial Mus. Victoria, 1909, 24 (Dease Lake, Cassiar, and Okanagan Lake, Brit. Columbia).—COOKE, Bull. 292, U. S. Agric. Dept. (Biol. Surv.), 1915, 14, fig. 5 (range and migrations).

^a See Saunders, Cat. Birds Brit. Mus., xxv, 1896, 301, footnote.

- Larus eburneus* PHIPPS, Voy. North Pole, App., 1774, 187 (coast of Spitzbergen).—BONNATERRE, Tabl. Enc. Méth., i, 1790, 87.—TEMMINCK, Man. d'Orn., 1815, 498; 2d ed., 1820, 769; pt. 4, 1840, 474.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 494; Faun. Franç., 1828, 389.—NILSSON, Orn. Suecica, 1817, 171.—O'REILLY, Greenland, 1818, 142.—SABINE (E.), Trans. Linn. Soc., xii, 1819, 348 (Baffin Bay); Parry's First Voy., Suppl., 1821, p. cciv (Davis Strait).—LEACH, in Thompson's Ann. Philos., xiii, 1819, 61 (Baffin Bay); in Ross Voy. Baffin Bay, App., ii, 1819, p. liv; 8vo. ed., ii, 1819, 160.—SCORESBY, Arctic Voy., i, 1820, 535 (Spitzbergen).—MANBY, Voy. Greenl., 1822, 50.—BREHM, Lehrb., 1824, 703.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 195.—ROSS (J. C.), Parry's Third Voy., App., 1826, 104 (Davis Strait and Baffin Bay); Parry's Fourth Voy., App., 1828, 194 (Spitzbergen and northward).—WERNER, Atlas Palmipèdes, 1828, pls. 21, 22.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 (Synopsis), 360.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 419.—LESSON, Traité d'Orn., 1831, 618.—SELBY, Brit. Birds, ii, 1833, 497, pl. 94.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 301.—AUDUBON, Orn. Biog., iii, 1835, 571, pl. 287; Synopsis, 1839, 326; Birds Am., 8vo. ed., vii, 1844, 150, pl. 445.—JENYNS, Man. Brit. Vertebr., 1835, 276.—EYTON, Cat. Brit. Birds, 1836, 53.—GOULD, Birds Europe, v, 1837, pl. 437 and text.—NAUMANN, Vög. Deutschl., x, 1840, 341, pl. 263; Anhang, 1860, 277.—YARRELL, Hist. Brit. Birds, iii, 1843, 449; 2d ed., iii, 1845, 567.—SCHLEGEL, Rev. Crit., 1844, 126; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 6.—DEGLAND, Orn. Eur., ii, 1849, 315.—KJÆRBÖLLING, Danm. Fugle, 1852, 337, pl. 41; Suppl., 1854, pl. 22.—CARTE, Journ. Roy. Dublin Soc., i, 1856, 57, pl. 1 (habits; egg).—MEYER, Brit. Birds, vii, 1857, 143, pl. 306.—MÜLLER, Vid. Medd., 1862 (1863), 72 (Faroe Islands).—MALMGREN, Öfver. Ak. Förh. Stockholm, 1863, 102; 1864, 385 (Spitzbergen).—HANCOCK, Ibis, 1867, 253 (Islay Island).—DROSTE, Journ. für Orn., 1869, 387 (Faroes).—HEUGLIN, Journ. für Orn., 1871, 103 (n. Europe); Ibis, 1872, 65 (Matthews Strait and west coast Novaya Zemlya).—HARTING, Proc. Zool. Soc. Lond., 1871, 122 (Assistance Harbor, Barrow Straits, 74½° N., 74½° W.); Handb. Brit. Birds, 1872, 174.—GRAY (R.), Birds West Scotland, 1871, 481.—PALMÉN, Finlanda Foglar, 1873, 610.—FINSCH, Abh. nat. Ver. Bremen, v, 1873, 365 (s. Greenland).—COUES, Check List, 1873, no. 550.—SUNDEVALL, Öfver. Ak. Förh., 1874, 21 (Spitzbergen).—[?] SWINHOE, Ibis, 1875, 140 (Chefoo, China; seen only).—BESSELS, Bull. Soc. Geogr. Paris, 1875, 296; Amerik. Nordpol-Exped., 1879, 312 (Polaris Bay).—BUNGE, Mém. Biol. Acad. St. Petersb., xii, livr. 1, 1884, 49 (Lena delta, Siberia).—SEEBOHM, Ibis, 1882, 385 (Archangel, Russia); Hist. Brit. Birds, iii, 1885, 337.—MILLAIS, Proc. Zool. Soc. Lond., 1886, 137 (Thurso and East Haven, Caithness, Scotland).—COLLETT, Ibis, 1888, 440, pl. 13 (Spitzbergen; descr. nest, eggs, and downy young); Tromsø Mus. Aarsheft., xiii, 1890, 187-196, with map (account of colony on Spitzbergen); Nyt Mag. Naturv., Bd. xxxv, 1894, 312 (Norway).—GÄTKE, Vogelw. Helgoland, 1891, 582.—WALTER, Journ. für Orn., 1890, 233, 241, 244, 246, 247, 249, 250 (e. Spitzbergen).—CLARKE (W. E.), Ibis, 1899, 48 (Whale Point Harbor, King Ludwig Islands, Ryk-ys Islands, King Charles Islands, and Olga Straits, Spitzbergen).
- [*Larus*] *eburneus* GMELIN, Syst. Nat., i, pt. ii, 1789, 596.—LATHAM, Index Orn., ii, 1790, 816.—COUES, Key N. Am. Birds, 1872, 314.
- [*Larus*] *eburneus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 242.
- Larus eburnea* SCLATER, Proc. Zool. Soc. Lond., 1888, 292 (Spitzbergen; descr. nest, eggs, and young).
- Gavia eburnea* BOIE, Isis, 1822, 563.—BREHM, Vög. Deutschl., 1831, 765.—BONAPARTE, Geog. and Comp. List, 1838, 62; Cat. Ucc. Eur., 1842, 77.
- Gavia eburnea* BOIE, Isis, 1822, 876.

- Pagophila eburnea* KAUP, Sk. Entw. Eur. Thierw. (Natürl. Syst.), 1829, 69.—GRAY, List Gen. Birds, ed. 1841, 90 and App. p. 15; List Birds Brit. Mus., Anseres, 1844, 174; Gen. Birds, iii, 1846, pl. 180, fig. 1; List Brit. Birds, 1863, 237.—REICHENBACH, Syst. Nat., 1850, pl. 5; Av. Syst. Nat., Longipennes, 1852, p. v.—LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 99.—REINHARDT, Journ. für Orn., 1854, 443 (Greenland); Ibis, 1861, 18 (Greenland).—BREHM, Naumannia, 1855, 295.—CARTE, Jour. Roy. Dublin Soc., i, 1856, 57, pls. 1, 2 (Prince Patrick Island; descr. eggs).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 856.—BAIRD, Cat. N. Am. Birds, 1859, no 676.—EVANS and STURGE, Ibis, 1859, 171 (w. Spitzbergen).—NEWTON, Proc. Zool. Soc. Lond., 1861, 400 (Spitzbergen; descr. eggs); Ibis, 1865, 507 (Spitzbergen; habits; descr. nest and eggs; crit.); Arctic Man., 1875, 105.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 308 (monogr.); Check List, 2d ed., 1882, no. 785.—WRIGHT, Ibis, 1866, 216 (Polynia Islands; Prince Patrick Id.; breeding).—MALMGREN, Journ. für Orn., 1865, 200 (Spitzbergen).—BLASIUS, Journ. für Orn., 1865, 384 (crit.).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 405.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 188 (Algeria?).—FRITSCH, Vög. Eur., 1867, 464, pl. 55, figs. 3, 5.—GILLETT, Ibis, 1870, 306 (Novaya Zemlya).—COLLETT, Forh. Selsk. Christiania, 1873, 297 (n. Norway); N. Mag. Naturv., 1877, 210 (n. Norway).—PELZELN, Ibis, 1873, 52 (spec. in coll. Leverian Mus.).—GOULD, Birds Great Brit., v. 1873, pl. 62 and text.—DRESSER, Birds Europe, viii, 1877, 349, pl. 595.—FEILDEN, Ibis, 1877, 409 (Smith Sound; n. to 82° 20', s. to Baffin Bay); Zoologist, 1878, 417; 1879, 8 (Prince Albert Land); in Markham's Polar Recon., 1881, 334 (Novaya Zemlya); Trans. Norwich Soc., iii, 1881, 209-211 (Franz Josef Land); iv, 1887 351 (Digges Island, Hudson Bay).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 162 (monogr.); ed. Yarrell's Hist. Brit. Birds, iii, 1884, 656; Man. Brit. Birds, 1889, 669; Cat. Birds Brit. Mus., xxv, 1896, 301; Ibis, 1904, 234 (Taimyr Peninsula, Siberia, July, Sept., not breeding).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 99 (Cumberland Sound).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 206 (Cat. N. Am. Birds no. 657); Nom. N. Am. Birds, 1881, no. 657.—BREWSTER, Bull. Nutt. Orn. Club, vi, 1881, 187 (St. Johns, New Brunswick, Nov., 1880).—MERIAM, Bull. Nutt. Orn. Club, vii, 1882, 241 (Point de Monts, Quebec, April, 1877).—CHAMBERLAIN, Bull. N. H. Soc. New Brunswick, 1882, 61.—NEALE, Proc. Zool. Soc. Lond., 1882, 653 (Franz Josef Land).—NELSON, Cruise 'Corwin' in 1881 (1883), 104 (Tafkau, n. e. Siberia; off Herald Island; etc.).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 186.—TACZANOWSKI, Bull. Soc. Zool. France, 1883, 341 (Kamchatka).—BAIRD, BREWER, and RIDGWAY, Water Birds, ii, 1884, 198.—CHAPMAN, Trans. N. H. Soc. Northumberland, viii, pt. 1, 1884, 155 (Spitzbergen, breeding).—COCKS, Zoologist, 1884, 13 (Spitzbergen).—MCLENNAN, Cruise 'Corwin,' 1884, 124 (Hotham Inlet or Kowak River, Alaska).—HOMEYER, Ornith., 1885, 80 (Germany).—MURDOCH, Rep. Point Barrow Exped., 1885, 122 (Point Barrow, Alaska).—GRÖNDAL, Ornith., 1886, 37 (Iceland).—PALMÉN, Vega'-Exped. Vetensk., v, 1887, 356 (all along Siberian coast).—BUCKLEY and HARVIE-BROWN, Faun. Orkney Islands, 1891, 229; Fauna Argyll and Inner Hebrides, 1892, 189.—FATIO and STUDER, Cat. Ois. Suisse, 1892, 62 (Lake Léman).—LILFORD, Col. Figs. Brit. Birds, pt. xxvi, 1893.—CLARKE (W. E.), Zoologist, 1890, 50 (Jan Mayen Land); Ibis, 1898, 264 (Franz Josef Land, breeding; habits; descr. nest and eggs; etc.).—PORHAM, Ibis, 1897, 106 (Ugor Strait).—TREVOR-BATTYE, Ibis, 1897, 592 (Spitzbergen; habits).—PEARSON, Ibis, 1898, 202 (Bear Bay, Novaya Zemlya).—CHAPMAN, Bull. Am. Mus. N. H., xii, 1899, 225 (Sukkertoppen, Greenland, Oct., Nov.).

- P[agophila] eburnea* GRAY, Gen. Birds, iii, 1846, 654.—COUES, Key N. Am. Birds, 2d ed., 1884, 749.
- [*Pagophila*] *eburnea* BONAPARTE, Naumannia, 1854, 212; Compt. Rend., xlii, 1856; 771.—SHARPE, Hand-list, i, 1899, 143.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58 (Melville Island; Wellington Channel, Spitzbergen).
- [*Larus (Pagophila)*] *eburneus* BRUCH, Journ. für Orn., 1853, 106; 1855, 236 (monogr.)
- [*Pagophila*] *eburneus* BONAPARTE, Consp. Av., ii, 1857, 230.
- Larus (Pagophila) eburneus* HEUGLIN, Journ. für Orn., 1872, 125 (Arctic Europe).—COUES, Birds Northwest, 1874, 648.
- Cetosparactes eburneus* MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 252; Brit. Birds, v, 1852, 508.
- Larus candidus* MÜLLER, Prodrum Zool. Danm., 1776, p. viii (Greenland).—FABRICIUS, Fauna Groenlandica, 1780, 103.—FLEMING, Brit. Anim., 1828, 142.
- Larus niveus* BODDAERT, Tabl. Pl. Enl., 1783, 58 (based on *Gaillard blanc du Spitzbergen* Daubenton, Pl. Enl., pl. 994).—MARMOTTAN and VIAN, Bull. Soc. Zool. France, 1879, 249 (Crotoy, France).
- Gavia nivea* BREHM, Vög. Deutschl., 1831, 766.
- [*Pagophila*] *nivea* BONAPARTE, Compt. Rend., xlii, 1856, 771.
- [*Pagophila*] *niveus* BONAPARTE, Consp. Av., ii, 1857, 230.
- Larus cyanorhynchus* TEMMINCK, Cat. Syst., 1807, 186, 187 (new name for *Larus eburneus* "Lath[am]").
- Larus brachytarsus* HÖLBOLL, Fauna Grönl., 1846, 52.
- L[arus] brachytarsus* HÖLBOLL, Naturhist. Tidsskr., iv, 1843, 422 (Greenland).
- Larus (Pagophila) brachytarsus* BRUCH, Journ. für Orn., 1853, 106.
- Pagophila brachytarsus* COUES, Proc. Ac. Nat. Sci. Phila., 1862, 309 (monogr.).
- [*Pagophila*] *brachytarsa* REINHARDT (J.), Journ. für Orn., 1854, 443 (Greenland).
- ? *Pagophila brachytarsa* REINHARDT (J.), Ibis, 1861, 18 (Greenland; crit.).
- [*Larus (Pagophila)*] *brachytarsus* BRUCH, Journ. für Orn., 1855, 237 (monogr.).
- Pagophila brachytarsa* BONAPARTE, Naumannia, 1854, 212.
- Pagophila brachytarsi* LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 856.—BAIRD, Cat. N. Am. Birds, 1859, no. 677.

Genus LARUS Linnæus.

- Larus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 136. (Type, as designated by Gray, 1840, *Larus glaucus* Linnæus=*L. hyperboreus* Gunnerus.)
- Lencus* KAUP, Natürl. Syst., 1829, 84. (Type, as designated by Gray, 1855, *Larus marinus* Linnæus.)
- Leucus* (emendation) GRAY, App. List Gen. Birds, 1842, 15.
- Laroides* BREHM, Isis, 1830, 993. (Type, as designated by Gray, 1840, *Larus major* Brehm=*Larus argentatus* Pontoppidan.)
- Plautus* (not of Gunnerus, 1761, nor Brünnich, 1771) REICHENBACH, Av. Syst. Nat., Longip., 1852, p. 2; Nat. Syst. Vög., 1852 (1853), p. v. (Type, by monotypy, *Larus glaucus* Brünnich=*L. hyperboreus* Gunnerus.)
- Glaucus* (not of Forster, 1800) BRUCH, Journ. für Orn., 1853, 101. (Type, by tautonymy, *Larus glaucus* Brünnich=*L. hyperboreus* Gunnerus.)
- Dominicanus* BRUCH, Journ. für Orn., 1853, 100. (Type, by tautonymy, *Larus dominicanus* Lichtenstein.)
- Gavina* BONAPARTE, Naumannia, 1854, 212. (Type, *Larus audouini* Payreaudeau.)
- Clupeilarus* BONAPARTE, Consp. Gen. Av., ii, 1857, 220. (Type, *Larus fuscus* Linnæus.)
- Einalia*^a HEINE, in Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 358. (New name for *Laroides* Brehm, on grounds of purism.)

^a *Εἰνάλιος*, of the sea. (Richmond.)

Medium sized to very large Laridæ (wing 317–497 mm.) with the well-developed hallux entirely free from inner toe; tibia with at least lower third unfeathered; tarsus longer than middle toe without claw, the planta tarsi not rugose or serrated; tail truncate or very slightly rounded; adults with head, neck, rump, upper tail-coverts, tail and entire under parts immaculate white (the head and neck streaked or clouded with grayish in winter); young with rump and upper tail-coverts always spotted, barred or mottled with grayish or dusky, back, scapulars, and wing-coverts streaked and mottled with grayish brown and whitish or buffy, and under parts more or less washed or mottled with grayish brown.

Bill shorter than head (the exposed culmen shorter than middle toe with claw), variable as to relative depth, and prominence of gonydeal angle.

KEY TO THE SPECIES AND SUBSPECIES OF LARUS.

- a. Head, neck, rump, upper tail-coverts, tail, and entire under parts immaculate white (the head and neck, at least in part, streaked or mottled with gray or brown in winter). (*Adults*.)
 - b. Depth of bill at gonydeal angle contained less than four and a half times in length of tarsus; middle toe, without claw, not less than 45 mm.; mandible with a subterminal spot of red.
 - c. Gray of primaries fading gradually into white terminally; without darker subterminal markings.
 - d. Larger (wing 425–474; tail 172.5–216; culmen 49–67.3). (Circumpolar regions, south in winter to Long Island, Great Lakes, California, Mediterranean, Black and Caspian Seas, Japan, etc.). *Larus hyperboreus* (p. 584).
 - dd. Smaller (wing 379–394; tail 155–165; culmen 40.5–44.5). (Northern Atlantic and adjacent parts of Arctic Ocean, south in winter to Long Island, Great Lakes, British Islands, Baltic Sea, etc.). *Larus leucopterus* (p. 590).
 - cc. Gray of primaries succeeded by abruptly darker subterminal spaces and abruptly white tips.
 - d. Subterminal spaces on primaries gray.
 - e. Second primary (from outside) very pale gray, very broadly tipped with white, the outer web with an elongated subterminal area of gray, sharply defined against the paler ground color.
 - f. Smaller (wing 393–416; tail 161–166; culmen 43–47; tarsus 53–56; middle toe, 49.5–52.5). (Northeastern North America, south in winter to Connecticut and New York.)..... *Larus kumlieni* (p. 593).
 - ff. Larger (wing, 417–468; tail, 172.5–194; culmen, 51–57; tarsus, 61–69; middle toe, 54–64). (Coast of Alaska, south in winter to Lower California.)..... *Larus nelsoni* (p. 595).
 - ee. Second primary (from outside) deep gray, either to extreme tip or else with very small white tip and a small white space some distance from tip, on one or both webs. (Size of *L. nelsoni*.) (Northern Pacific Ocean and Bering Sea, south in winter to Lower California, northern Japan, etc.)..... *Larus glaucescens* (p. 597).
 - dd. Subterminal spaces on primaries black, at least in part.
 - e. Subterminal spaces on primaries partly blackish slate. (Size of *L. kumlieni*, but with darker back, etc., and heavier bill.) (Ellesmere Land and northern Alaska.)..... *Larus thayeri* (p. 600).

ee. Subterminal spaces on primaries wholly black.

f. Shafts of primaries within black subterminal spaces white; tarsus 73-77, middle toe 69-74.5. (Northern Atlantic Ocean, south in winter to coast of United States, Great Lakes, Canary Islands, etc.)

Larus marinus (p. 601).

ff. Shafts of primaries within the black subterminal spaces black; tarsus less than 73, middle toe less than 69.

g. Color of back, etc., deep or dark gray (not paler—usually much darker—than neutral gray).

h. Second primary (from outside) with a distinct gray "wedge" on inner web.

i. Larger (wing, 436-470; tail, 179-196; culmen, 54-65.5; tarsus, 59-72; middle toe, 55.5-65.5). (Bering Sea and northern Pacific Ocean, south to Japan.).....*Larus schistisagus* (p. 605).

ii. Smaller (wing, 423-425; tail, 157-165.1; culmen, 51.5-52.1; tarsus 61-68.5; middle toe, 49-54). (Northern Europe and Asia, south in winter to northern Africa; accidental in Greenland.)

Larus affinis (p. 608).

hh. Second primary (from outside) without distinct gray "wedge" on inner web.

i. Gonydeal angle very prominent, the depth of bill at angle (21.6-24.1) much greater than at base; legs and feet flesh color in life; middle toe 55.5-65.5. (Pacific coast of North America.)

Larus occidentalis (p. 610).

ii. Gonydeal angle not conspicuously prominent, the depth of bill at angle (15.2-17.3) little if any greater than at base; legs and feet yellow in life; middle toe 41.9-49.5. (Northern Europe, south in winter to Mediterranean Sea, Canary Islands, Red Sea, Persian Gulf, etc.).....*Larus fuscus* (extralimital).^a

gg. Color of back, etc., light to pale gray (paler than neutral gray).

h. Mandible without a black subterminal spot; iris light yellow.

i. Legs and feet (in life) flesh color.

j. Naked eye-ring (in life) flesh color; color of back, etc., paler (pallid neutral gray or light gull gray). (Northern Europe and North America, south in winter to Mediterranean, Black, and Caspian seas, Bahamas, Cuba, Yucatan, and western Mexico.)

Larus argentatus (p. 612).

jj. Naked eye ring (in life) vermilion red; color of back, etc., darker (light neutral gray). (Bering Sea and adjacent parts of Arctic Ocean, south in winter to California, Japan, coast of China, Formosa, and Bonin Islands.)

Larus vegae (p. 618).

^a [*Larus fuscus* Linnaeus, Syst. Nat., ed. 10, i, 1758, 136; ed. 12, i, 1766, 225; Gould, Birds Europe, v, 1837, pl. 431 and text; Birds Great Brit., v, 1873, pl. 56 and text; Naumann, Vög. Deutschl., x, 1840, 419, pl. 267; Schlegel, Vog. Nederl., 1854, 597, pls. 345, 346; Dresser, Birds Europe, viii, 1873, 421, pl. 603; Saunders, Cat. Birds Brit. Mus., xxv, 1896, 250.—*Leucus fuscus* Kaup, Natürl. Syst., 1829, 86, 196.—*Laroides fuscus* Brehm, Isis, 1830, 993.—*Dominicanus fuscus* Bruch, Journ. für Orn., 1853, 100.—*[Clupeilarus] fuscus* Bonaparte, Compt. Rend., xlii, 1856, 770.—*Larus flavipes* Wolf and Meyer, Naturg. Vög. Deutschl., ii, 1805, 32 with pl.; Meyer, Taschenb. Vög. Deutschl., ii, 1810, 469, with pl.—*Laroides melanotus* Brehm, Isis, 1830, 993.—*Laroides harengorum* Brehm, Isis, 1830, 993.—*Laroides a. nigrodorsalis* Brehm, Naumannia, 1855, 294.—*Laroides β. assimilis* Brehm, Naumannia, 1855, 294.—*Larus graellsii* A. Brehm, Allg. Deutsch. Naturh., 1857, 483 (Malaga).

- ii. Legs and feet (in life) yellow; color of back, etc., paler (intermediate between that of *L. vegæ* and that of *L. argentatus*). (Mediterranean, Black, and Caspian Seas and eastward to Lake Baikal, south in winter to west coast of Africa, Red Sea, India, etc.). . . . *Larus cachinnans* (extralimital).^a
- hh. Mandible with a subterminal black spot; iris dark brown. (Western North America, south in winter to western Mexico.)
Larus californicus (p. 620).
- bb. Depth of bill at gonydeal angle contained at least four and a half times in length of tarsus; middle toe, without claw, less than 45 mm.; mandible without any red.
- c. Bill with a subterminal band or transverse spot of black. (Northern North America, south in winter to Bermuda, Cuba, Gulf of Mexico, and southern Mexico.) *Larus delawarensis* (p. 623).
- cc. Bill without any black.
- d. Gray "wedge" on inner web of third primary (from outside) never tipped with white nor carried definitely farther than tip of sixth (usually not much beyond tip of seventh) primary; wing 339-380, averaging 363.4 in male; culmen 36.5-45, averaging 39.4 in male. (Northern Europe and Asia, south in winter to Mediterranean Sea, Nile basin, Persian Gulf, etc.; accidental in Labrador.) *Larus canus* (p. 627).
- dd. Gray "wedge" on inner web of third primary (from outside) always terminated with white, this carried beyond tip of sixth (sometimes beyond tip of fifth) primary; wing 328-366, averaging 358.9 in male, 344.6 in female; culmen 32-38, averaging 36.4 in male, 34.1 in female. (North-western North America, south in winter to southern California.)
Larus brachyrhynchus (p. 632).
- aa. Head and neck streaked or clouded, rump and upper tail coverts spotted or barred with grayish brown or dusky, wing-coverts streaked or mottled with grayish brown and whitish or pale buffy, and under parts more or less washed or clouded with grayish brown. (Young.)^b
- b. No "solid" black or dusky on tail, which is light brownish gray or grayish brown (smoke gray or mouse gray), more or less mottled with whitish.
- c. Darker, the back mouse gray, this color predominant over the lighter markings; tail almost uniform mouse gray, the white mottlings few and confined almost exclusively to the base and lateral feathers.
Larus glaucescens, young (p. 597).
- cc. Lighter, the back smoke gray, the whitish markings more numerous and usually predominant; tail smoke gray, the white markings more numerous and more generally dispersed.

^a *Larus cachinnans* Pallas, Zoogr. Rosso-Asiat., ii, 1826, 318; Saunders, Cat. Birds Brit. Mus., xx, 1896, 266.—*Laroides cachinnans* Bruch, Journ. für Orn., 1855, 282.—*Larus leucophaeus* Lichtenstein, Nomencl. Av. Mus. Berol., 1854, 99 (Arabia;=*nomen nudum*); Dresser, Birds Europe, viii, 1873, 411, pl. 602, fig. 1.—*Glaucus leucophaeus* Bruch, Journ. für Orn., 1853, 101 (Red Sea).—*Laroides leucophaeus* Bonaparte, Naumannia, 1854, 212.—*Glaucus michahellesii* Bruch, Journ. für Orn., 1853, 101 (Dalmatia).—*Laroides michahellesii* Bruch, Journ. für Orn., 1855, 282.—*Larus michahellesii* Erhard, Faun. Cykladen, 1858, 45, 62.—*Larus epargyus* Lichtenstein, Nomencl. Av. Mus. Berol., 1854, 99.—(?) *Larus heuglini* Bree, Birds Europe, 2d ed., v, 1876, 58.

^b This key to the young has been prepared by Mr. J. H. Riley, at my request.—R. R.

- d. Larger, depth of bill at base usually more than 17.5 mm.
Larus hyperboreus, young (p. 585).
- dd. Smaller, depth of bill at base usually much less than 17.5 mm.
Larus leucopterus, young (p. 590).^a
- bb. Tail with at least the terminal or subterminal third blackish or brownish, the lateral feathers sometimes barred with white.
- e. Culmen 60 mm. or more.
- f. Bill longer and heavier; middle toe without claw longer (culmen about 63; middle toe about 65).....*Larus marinus*, young (p. 601).
- ff. Bill shorter and weaker; middle toe without claw shorter (culmen about 61; middle toe about 60)....*Larus schistisagus*, young (p. 606).
- ee. Culmen considerably less than 60 mm., not over 55.
- g. Middle toe without claw over 45 mm.
- h. Culmen 50 mm. or more.
- i. Upper parts darker, more fuscous.
- j. Tarsi and feet (in dried skin) blackish brown.
Larus occidentalis, young (p. 610).
- jj. Tarsi and feet (in dried skin) light isabella color.
Larus fuscus, young.^b
- ii. Upper parts lighter, more of a hair brown..
- k. Bill heavier; middle toe without claw longer (depth of bill about 18; middle toe about 52).....*Larus vegæ*.^c
- Larus argentatus* and subspecies, young (p. 612).
- kk. Bill slenderer; middle toe without claw shorter.
Larus affinis, young (p. 608).
- hh. Culmen considerably less than 50 mm.
Larus californicus, young (p. 621).
- gg. Middle toe without claw considerably less than 45 mm.
- h. Bill slenderer; dark tail band not so well defined and lighter inclining to a more grayish brown (depth of bill at base about 10 mm.).....*Larus brachyrhynchus*, young (p. 633).
- hh. Bill heavier; dark tail band more sharply defined and darker, more inclined to blackish (depth of bill at base 11 mm. or more).
- i. Bill more robust, usually more than 11 mm. in depth at base.....*Larus delawarensis*, young (p. 624).
- ii. Bill weaker, not more than 11 mm. in depth at base.
Larus canus, young (p. 628).^d

LARUS HYPERBOREUS Gannorus.

GLAUCOUS GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under

^a *L. kumlieni*, *L. nelsoni*, and *L. thayeri*, immature plumages of which are not available, probably come in here.

^b Extralimital.

^c *L. argentatus* (forms) and *L. vegæ* can not be distinguished in the immature plumages in a key.

^d Immature plumages of *L. canus* and *L. delawarensis* are very nearly alike and the depth of the bill at the base not always to be relied upon.

wing-coverts, immaculate pure white; back, scapulars, and wings uniform pale gull gray, on the primaries passing gradually into white terminally, the secondaries passing into white terminally (for about 44.5 mm.); shafts of primaries yellowish white to pale straw yellow; bill yellow (lemon, or gamboge), the mandible with a lateral sub-terminal spot of red; iris yellow; naked eye-ring red; legs and feet flesh color or pinkish (in life).

Adults in winter.—Similar to the summer plumage, but head and neck streaked or clouded with pale-grayish brown or brownish gray; naked eye-ring pale yellow and legs and feet paler flesh color.

Young in first plumage.—General color grayish white, more or less tinged with pale brownish gray, or grayish brown, on under parts, the upper parts transversely mottled with brownish gray and more or less tinged with pale buffy, the head and neck streaked and clouded with pale brownish gray or grayish brown; tail pale brownish gray or grayish brown, more or less mottled with whitish; bill yellowish or flesh color with terminal portion blackish; iris yellowish brown; legs and feet brownish flesh color.

Immature (second winter?).—Entirely white or yellowish white, the bill and feet colored essentially as in first plumage.

Downy young.—Grayish white, the under parts more purely white; head and neck irregularly marked with scattered large spots of dusky, the back, wings, and rump irregularly clouded with dark grayish.

Adult male.—Wing, 428–474 (453.7); tail, 175–207 (186.3); exposed culmen, 53–67.3 (60.2); tarsus, 53.1–74 (65.6); middle toe, 51.3–66 (61.3).^a

Adult female.—Wing, 424–457 (436.7); tail, 172.5–190 (182.7); exposed culmen, 49–60.5 (55.4); tarsus, 57–69.3 (62.5); middle toe, 53–63 (56.5).^b

^a Eleven specimens.

^b Eight specimens.

Locality	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Three adult males from northeastern North America.....	455.6	195.5	61.5	61.5	59.8
Four adult males from Point Barrow, Alaska.....	449.4	185.7	58.6	65.8	61.6
Four adult males from Bering Sea, etc., Alaska.....	456.8	197.7	63.8	68.5	62.3
FEMALES.					
One adult female from Spitzbergen.....	457	190	60.5	62	63
Two adult females from Cumberland Gulf.....	431.5	180.7	58.2	65.4	(58.5)
Two adult females from Point Barrow, Alaska.....	430.5	175.7	49.5	58.5	53.2
Three adult females from St. Michaels and Point Gustavus, Alaska.....	437.8	186.3	55.8	63.5	55.9

Breeding on islands in Arctic Ocean, northward to northwestern Greenland (Thank God Harbor), Prince Patrick Island, Franz Joseph Land, King Oscar Land, Spitzbergen, etc., southward to Newfoundland, coast of Labrador (Hopedale), eastern and northwestern shores of Hudson Bay, Franklin Bay, Mackenzie, Herschel Island, Yukon, Point Barrow, St. Matthew Island, Pribilof Islands (Walrus Island) and mouth of Kuskoquim River, Alaska (possibly to eastern side of Alaska Peninsula, where taken at Kukak Bay, July 3, 1899), Indian Point and Chukchi Peninsula, Koff Island, Kara Sea, and lower Petchora River, northern Russia, etc.; migrating southward to Long Island, Great Lakes (Toronto Bay; Lake Michigan, near Chicago and at Racine), Monterey, California, Japan, and Caspian, Black, and Mediterranean seas, casually to coast of North Carolina (Cape Lookout, April 3, 1887), Bermudas (large flock March to April 28, 1901), Erie, Pennsylvania (Feb. 22, 1898), New York (Ossining, Jan. 19, 1889; Buffalo, Jan. 29, 1895; Bangor, Franklin County), northwestern Indiana (Millers, Aug. 8, 1897), northern Texas (Red River, Clay County, Dec. 17, 1880), Washington (Tacoma Bay), and Hawaiian Islands (Kauai; Maui).

Larus glaucus (not of Pontoppidan, 1763^a) BRÜNNICH, Orn. Bor., 1764, 44 (Iceland).—FABRICIUS, Faun. Groenl., 1780, 100.—MOHR, Iceland Naturh., 1786, 42.—BONNATERRE, Tabl. Enc. Méth., i, 1790, 841.—RETZIUS, Fauna Suecica, 1800, 156.—TEMMINCK, Cat. Syst., 1807, 186; Man. d'Orn., 2d ed., ii, 1820, 757; iv, 1840, 467.—VIEILLIOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 505; Faun. Franç., Ois., 395.—SABINE, Trans. Linn. Soc., xii, 1819, 543 (Greenland); Suppl. Parry's 1st Voy., 1821, p. cciii (Barrow Strait, etc.).—LEACH, in Ross's Voy. Baffin Bay, 4th ed., 1819, p. liv; 8vo ed., ii, 1819, 161.—SCORESBY, Arctic Voy., i, 1820, 535.—BOIE, Isis, 1822, 875.—BREHM, Beitr. Vogelk., iii, 1822, 800; Lehrb., 1824, 729; Vög. Deutschl., 1831, 733.—MANBY, Voy. Greenland, 1822, 48.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 189.—RICHARDSON (J.), App. Parry's 2d Voy., 1825, 358 (Lyon Inlet, s. of Melville Peninsula).—ROSS, App. Parry's 3d Voy., 1826, 103 (Point Bowen and North Somerset Land); App. Parry's 4th Voy., 1828, 194 (Low Island, Spitzbergen).—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 361; Geog. and Comp. List, 1838, 63.—WERNER, Atlas, Palmipèdes, 1828, 15.—FLEMING, Brit. Anim., 1828, 139.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 416.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 306.—SELBY, Brit. Birds, ii, 1838, 498, pl. 99.—JENYNS, Man. Brit. Vertbr., 1835, 279.—EYTON, Cat. Brit. Birds, 1836, 53.—GOULD, Birds Europe, v, 1837, pl. 432 and text; Birds Great Brit., v, 1873, pl. 57 and text.—AUDUBON, Orn. Biog., v, 1839, 59, pl. 396; Synopsais, 1839, 329; Birds Am., 8vo ed., vii, 1844, 170, pl. 449.—NAUMANN, Vög. Deutschl., x, 1840, 350, pl. 264.—SCHINZ, Europ. Faun., 1840, 378.—SELYS-LONGCHAMPS, Faune Belge, 1842, 153.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 247; Brit. Birds, v, 1852, 557.—YARRELL, Brit. Birds, iii, 1843, 475; 2d ed., iii, 1845, 595.—GIRAUD, Birds Long Island, 1844, 363.—SCHLEGEL, Rev. Crit., 1844, p. cxxv; Vog. Nederl., 1854,

^a = *Larus canus* Linnæus, 1758.

594, pls. 340, 341; *Dier. Nederl. Vogels*, 1861, 234; *Mus. Pays-Bas*, vi, no. 23 (Lari), 1863, 4.—HEWITSON, *Eggs Brit. Birds*, ii, 1846, 450, pl. 128, fig. 2.—DEGLAND, *Orn. Europ.*, ii, 1849, 309.—THOMPSON, *Birds Ireland*, iii, 1851, 338.—BRANDT, in *Lehmann's Reis. Buchara*, 1852, 331 (mouth of Ural River).—KJÆRBØLLING, *Danm. Fugle*, 1852, 341, pl. 42.—MIDDENDORFF, *Reis. Sibir.*, Zool., 1853, 241.—CARTE, *Journ. Roy. Soc. Dublin*, i, 1856, 60 (Prince Patrick Island).—MEYER, *Brit. Birds*, vii, 1857, 147, pl. 307.—LAWRENCE, in *Baird, Rep. Pacific R. R. Surv.*, ix, 1858, 842; *Ann. Lyc. N. Y.*, viii, 1867, 299 (vicinity New York City).—BAIRD, *Cat. N. Am. Birds*, 1859, no. 656.—EVANS and STURGE, *Ibis*, 1859, 167 (w. Spitzbergen).—REINHARDT, *Ibis*, 1861, 16 (Greenland; crit.).—COUES, *Proc. Ac. Nat. Sci. Phil.*, 1861, 243 (Labrador); 1862, 294 (monogr.); *Check List*, 1873, no. 543; 2d ed., 1882, no. 768; *Birds Northwest*, 1874, 620 (monogr.); in *Elliott's Aff. in Alaska*, 1875, 198 (Pribilof Islands; habits, etc.).—GRAY, *List Brit. Birds*, 1863, 230.—RADDE, *Reis. Sibir.*, ii, 1863, 382.—NEWTON, *Ibis*, 1865, 509 (Spitzbergen; habits); *Arctic Man.*, 1875, 106.—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 409.—DALL and BANNISTER, *Trans. Chicago Ac. Sci.*, i, 1869, 304 (St. Michaels, Alaska).—DROSTE, *Journ. für Orn.*, 1869, 336 (Faroer Islands).—GILLETT, *Ibis*, 1870, 306 (Novaya Zemlya).—HOMER, *Journ. für Orn.*, 1870, 436 (e. Siberia); 1871, 104 (n. Europe).—GRAY (R.), *Birds West Scotl.*, 1871, 490.—HARTING, *Proc. Zool. Soc. Lond.*, 1871, 122 (Melville Island); *Handb. Brit. Birds*, 1872, 77.—HEUGLIN, *Ibis*, 1872, 65 (Novaya Zemlya and s. to Yugrosky Strait), 175 (Arctic Europe).—FEILDEN, *Zoologist*, 1872, 3289 (Faroer); 1879, 7 (Prince Albert Land); *Proc. Zool. Soc. Lond.*, 1877, 31 (North Polar Basin), 409 (Cape Sabine, north to 82° 34'; Smith Sound); in *Markham's Polar Recon.*, 1881, 334 (Novaya Zemlya).—SALVADORI, *Faun. Ital.*, Ucc., 1872, 295; *Ucc. Ital.*, 1887, 287.—PALMÉN, *Finlands Fogl.*, 1873, 585; 'Vega'-Exped., 1887, 365 (Jan Mayen Land, Spitzbergen, Novaya Zemlya, etc.; n. e. Siberia).—SWINHOE, *Ibis*, 1874, 165 (Hakodate, Japan).—BESSELS, *Bull. Soc. Geogr. Paris*, 1875, 296; *Amerik. Nordpol.-Exped.*, 1879, 312 (Polaris Bay).—IRBY, *Orn. Straits Gibralt.*, 1875, 215 (Tangier, Morocco); 2d ed., 1895, 301.—SEEBOHM and HARVIE-BROWN, *Ibis*, 1876, 453 (lower Petchora River, Russia; habits; descr. downy young and nest).—DRESSER, *Birds Europe*, viii, 1877, 433, pl. 605.—SAUNDERS, *Proc. Zool. Soc. Lond.*, 1878, 165 (monogr.); *Ibis*, 1884, 391 (s. w. France); ed. Yarrell's *Brit. Birds*, iii, 1884, 636; *Man. Brit. Birds*, 1889, 663; *Cat. Birds Brit. Mus.*, xxv, 1896, 289, 458.—BLAKISTON and PRYER, *Ibis*, 1878, 217 (Hakodate, Japan).—ADAMS, *Ibis*, 1878, 440 (St. Michaels, Alaska; habits).—SEEBOHM, *Ibis*, 1879, 23 (Hakodate, Japan), 161 (Yenesei River, Siberia); 1882, 230 (Caspian Sea), 385 (Archangel, Russia; Kanin Peninsula, breeding); 1888, 350 (Great Liakoff Island, Siberia); *List. Brit. Birds*, iii, 1885, 330; *Birds Japanese Emp.*, 1890, 290.—KUMLIEN, *Bull. U. S. Nat. Mus.*, no. 15, 1879, 95 (Cumberland Sound).—MEARNS, *Bull. Nutt. Orn. Club*, v, 1880, 189 (Long Island, New York, March 4, 1880).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880 (*Cat. N. Am. Birds*), 206; *Nom. N. Am. Birds*, 1881, no. 660.—RAGSDALE, *Bull. Nutt. Orn. Club*, vi, 1881, 187 (Clay Co., n. Texas, 1 spec., Dec. 17, 1880).—MAYNARD, *Birds E. N. Am.*, 1881, 482 (Massachusetts in winter, rare).—MERRIAM, *Bull. Nutt. Orn. Club*, vii, 1882, 257 (Bangor, Franklin Co., New York, 1 spec.).—NEALE, *Proc. Zool. Soc. Lond.*, 1882, 653 (Franz Joseph Land).—ELLIOTT, *Mon. Pribylov Group*, 1882, 132 (breeding at Walrus Inlet; descr. downy young).—BEAN, *Proc. U. S. Nat. Mus.*, 1882, 168 (Cape Lisburne, Alaska).—NELSON, *Cruise 'Corwin' in 1881* (1883), 106 (Bering Sea and adjacent Arctic Ocean; habits, etc.).—TACZANOWSKI, *Bull. Soc. Zool. France*, 1883, 341 (Kamchatka).—

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- [*Leucus*] *glaucus* BONAPARTE, Compt. Rend., xlii, 1856, 770; Comp. Av., ii, 1857, 215.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 358.

Plautus glaucus REICHENBACH, Av. Syst. Nat., Longipennes, 1852, p. v, pl. 47, figs. 316-318.

Laroides glaucus BONAPARTE, Naumannia, 1854, 211.

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Larus giganteus "Temm[inck]" BENICKEN, Ann. Wetterau. Gesellsch., iii, 1812, 140.

Larus maximus (not of Leach, 1816) O'REILLY, Greenland, 1818, 141, pl. 13.

(?) *Larus leucereles* SCHLEEF, N. Ann. Wetterau. Gesellsch., iv, 1819, 314.

Larus consul BOIE, Wiedemann's Zool. Mag., 1819, 126 (Spitzbergen).—BREHM, Isis, 1830, 994; Vög. Deutschl., 1831, 735.

Glaucus consul BRUCH, Journ. für Orn., 1853, 101.

(?) *Larus medius* BREHM, Beitr. Vogelk., iii, 1822, 810; Lehrb., Eur. Vög., 1824, 731; Vög. Deutschl., 1831, 736.

Larus islandicus EDMONSTON, Mem. Wern. Soc., iv, 1822, 185.

Larus minor BREHM, Isis, 1830, 993 (new name for *Larus medius* Brehm; see Hartert, Nov. Zool., xxiii, 1916, 296); Vög. Deutschl., 1831, 736; Naumannia, 1855, 294; Vogelf., 1855, 338.

Larus leucopterus (not of Faber, 1822) VIELLOT, Tabl. Enc. Méth., i, 1823, 346.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 304 (St. Michaels, and Yukon River below Anvik, Alaska).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 166, part (Japan; monogr.); ed. Yarrell's Brit. Birds, iii, 1884, 648, part (Bering Sea and North Pacific Ocean); Man. Brit. Birds, 1889, 664, part (Bering Sea and North Pacific Ocean).—SEEBOHM, Ibis, 1879, 24 (Japan); Birds Japan. Emp., 1890, 202.—HARTLAUB, Journ. für Orn., 1883, 285 (Alaska).—NELSON, Cruise 'Corwin' in 1881 (1883), 106 (Aleutian Islands and Bering Sea; Plover Bay, Siberia; etc.); Rep. Nat. Hist. Coll. Alaska, 1887, 52 (islands in Bering Sea and Arctic coast).—TOWNSEND, Auk, iv, 1887, 12 (Kowak River, Alaska).—(?) FATIO and STUDER, Cat. Ois. Suisse, 1892, 62 (Lake of Neuchatel, Switzerland).

Larus glacialis BREHM, Lehrb. Eur. Vög., 1824, 705; Isis, 1830, 993; Vög. Deutschl., 1831, 732; Naumannia, 1855, 294; Vogelf., 1855, 338.—MACGILLIVRAY, Mem. Wern. Soc., v, pt. i, 1824, 270 (Shetland).

[*Laroides*] *glacialis* BONAPARTE, Naumannia, 1854, 212.

[*Laroides*] *glacialis* BRUCH, Journ. für Orn., 1855, 282 (monogr.).

Larus hutchinsii RICHARDSON, in Swainson and Richardson, Fauna Bor.-Am., ii, 1831, 419 (Albany River, Hudson Bay).—CASSIN, Proc. Ac. Nat. Sci. Phila., 1862, 290.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 294 (monogr.).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (Long Island, New

York; crit.).—ELLIOT, New and Unfig. N. Am. Birds, pt. 12, 1868 (vol. ii), pl. 53, rear fig., and text (wing figured, in text, as that of *L. glaucescens*).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 304 (Fort Yukon, Alaska).

Larus barrovianus RIDGWAY, Auk, iii, no. 3, July, 1886, 330 (Point Barrow, Alaska; coll. U. S. Nat. Mus.); Man. N. Am. Birds, 1887, 593.—TURNER, Contr. N. H. Alaska, 1886, 125 (St. Michaels, etc.; habits).—NELSON, Rep. N. H. Coll. Alaska, 1887, 51 (habits, etc.).—CHAPMAN, Auk, v, 1888, 393.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. to Check List, 1889, 5; Check List, 2d ed., 1895, no. 42, 1.—HENSHAW, Birds Hawaiian Is., 1902, 126 (Kauai, 2 specs.).—SCHALOW, 'Vög. der Arktis, 1904, 146 (synonymy, range, etc.).—BROOKS, Auk, xxi, 1904, 289 (Comox Bay, Brit. Columbia, Dec. 15, 1903).—KERMODE, Provincial Mus. Victoria, 1909, 24 (Comox Bay).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 35 (Patience Bay, Sakhalin Island, Sept. 28).

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[Larus] barrovianus PALMÉN, 'Vega'-Exped., 1887, 365, footnote.

Larus glaucescens (not of Naumann, 1840) TACZANOWSKI, Mém. Acad. St. Pétersb., (7), xxxix, 1893, 1019 (e. Siberia).

LARUS LEUCOPTERUS Faber.

ICELAND GULL.

Similar in coloration to *L. hyperboreus*, but much smaller, with relatively smaller bill and feet and longer wing.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform pale gray (between pale and pallid neutral gray, slightly darker than in *L. hyperboreus*), this on remiges fading terminally into white (broadly); bill deep yellow or orange-yellow, sometimes greenish yellow terminally, the mandible with a lateral and subterminal spot of red; iris pale yellow; naked orbital ring orange-red (in life); legs and feet pale flesh color (in life).

Adults in winter.—Similar to the summer plumage, but head and neck streaked with dark grayish, naked orbital ring yellow (in life) and legs and feet paler flesh color.

Young.—Head and neck broadly streaked with brownish gray and grayish white, the upper parts coarsely spotted and mottled with the same; under parts nearly uniform light brownish gray.

Adult male.—Wing, 379; tail, 155; exposed culmen, 44.5; tarsus, 53; middle toe, 48.^a

Adult female.—Wing, 393.7; tail, 165; exposed culmen, 40.5; tarsus, 53.3; middle toe with claw, 53.3.^a

^a One specimen.

Four adults with sex undetermined measure as follows: Wing, 391.2–419 (404.1); tail (one specimen), 170.2; exposed culmen, 41.9–48.3 (43.8); tarsus (three specimens), 2.1–55.9 (54.6); middle toe (three specimens), 44.4–49.5 (47).

Breeding on coasts of Greenland (from southern end to lat. 70° or farther on western side), westward to Cambridge Bay, Victoria Land and Boothia Peninsula, eastward to Jan Mayen Land, occurring as far northward as lat. 81° 40' (Fort Conger, May 19 and June 5); migrating southward as far as Massachusetts (Boston Harbor, Jan. 31, 1880, Feb., 1881), Connecticut (Stamford, Feb. 16 and March 3, 1894), New York (Rockaway Beach, Long Island, Feb. 6, 1898; Rye, March 3, 1894; near Brockport, Sept. 10, 1899; Lansingburg, Nov. 21, 1888; Oswego, Dec. 28, 1899; Peterboro, Feb. 1, 1884; Ithaca, March 17, 1897; Rochester, April 14, 1904), Ohio (Lorain, Dec. 22, 1888), Ontario (Toronto, Dec. 2, 1898; Port Sydney, April 6, 1898), Michigan (Sault Ste. Marie), northeastern Illinois (Lake Michigan, near Chicago, "regular winter resident"), and Nebraska (Dorchester, Jan. 15, 1907), in Europe southward to Iceland, Shetland and Faroe islands, Scotland, England (Lincolnshire), Wales (Towyn), Cornwall (Mounts Bay), Norway, Baltic Sea (rarely) and coast of France (Gulf of Gascony in severe winters).

Larus argentatus (not of Pontoppidan, 1763) SABINE, Trans. Linn. Soc., xii, 1819, 546.

Larus leucopterus FABER, Prodr. Isl. Orn., 1822, 91 (Iceland).—BREHM, Beitr. Vogelk., iii, 1822, 817; Lehrb., 1824, 715; Ornith., Heft ii, 1826, 137 (Elbe).—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 361; Geog. and Comp. List, 1838, 63.—KAUP, Natürl. Syst., 1829, 28.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 418.—LESSON, Traité d'Orn., 1831, 617.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 305.—AUDUBON, Orn. Biog., iii, 1835, 553, pl. 282; Synopsis, 1839, 327; Birds Am., 8vo ed., vii, 1844, 159, pl. 447.—EYTON, Cat. Brit. Birds, 1836, 53.—SCHINZ, Europ. Fauna, 1840, 378.—TEMMINCK, Man. d'Orn., 2d. ed., pt. 4, 1840, 467.—WERNER, Atlas, Palmipèdes, 1840, pl. 19.—NAUMANN, Vög. Deutschl., x, 1840, 367, pl. 265.—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 247; Brit. Birds, v, 1852, 566.—SELYS-LONGCHAMPS, Faune Belge, 1842, 154.—YARRELL, Brit. Birds, i, 1843, p. xi (Lincolnshire, England).—SCHLEGEL, Rev. Crit., 1844, p. cxxv; Vog. Nederl., 1854, 595, pl. 342; Dier. Nederl. Vogels, 1861, 234; Mus. Pays-Bas, vi, no. 23 (Lari), 1864, 5.—DEGLAND, Orn. Eur., ii, 1849, 310.—KJÆR-BÖLLING, Danm. Fugle, 1852, 340, pl. 41; Suppl., 1854, pl. 22, figs. 1, 2.—HEWITSON, Eggs Brit. Birds, ii, 1856, 498, pl. 139, figs. 1, 2.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 843; Auk, i, 1884, 240 (Peterboro, New York, Feb. 1, 1884).—BAIRD, Cat. N. Am. Birds, 1859, no. 658.—REINHARDT, Ibis, 1861, 17 (Greenland).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 294 (monogr.); Check List, 1873, no. 544; 2d ed., 1882, no. 769; Birds North-west, 1874, 622 (monogr.).—GRAY, Cat. Brit. Birds, 1863, 230.—NEWTON, in Baring-Gould's Iceland, 1863, 418.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 411.—FRITSCH, Vög. Eur., 1870, 473, pl. 56, fig. 6.—DROSTE, Journ. für Orn., 1869, 386 (Faroe Islands).—HARTING, Handb. Brit. Birds, 1872, 77.—PALMÉN, Finlands Fogl., 1873, 589 (Finland?); 'Vega'-Exped. Vetensk., 1887, 369, foot note (not found in Siberia or Bering Sea).—FINSCH, Abh. Nat. Ver. Bremen, v, 1873, 364 (s. Greenland).—COLLETT, Forh. Selsk. Christiania, 1873, 293 (n. Norway).—HARVIE-BROWN, Proc. N. H. Soc. Glasgow, 1873, 210 (Forth, Scotland).—NEWTON, Arctic Man., 1875, 106 (Greenland).—DRESSER, Birds Europe, viii, 1876, 439, pl. 606.—NELSON, Bull. Nutt. Orn.

- Club, i, 1876, 41 (regular winter visitant to Lake Michigan, n. e. Illinois).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1877, 97 (Cumberland Sound and s. Greenland).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 166 (monogr.); ed, Yarrell's Brit. Birds, iii, 1884, 642; Man. Brit. Birds, 1889, 665; Cat. Birds Brit. Mus., xxv, 1896, 295 (Mount's Bay, Cornwall; Towyn, Wales; Iceland, winter; Greenland; Newfoundland, Dec.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds no. 661), 206; Nom. N. Am. Birds, 1881, no. 661.—MAYNARD, Birds E. N. Am., 1881, 483 (Boston Harbor, rare in winter).—BANGS, (A. E. and O.), Bull. Nutt. Orn. Club, vi, 1881, 124 (Boston, Massachusetts, Jan. 31, 1880).—MERIAM, Bull. Nutt. Orn. Club, vi, 1881, 235 (Lewis Co., New York, rare winter visitant).—CORY, Bull. Nutt. Orn. Club, vii, 1882, 60 (near Boston, Nov., 1881).—BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 125 (Maine).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 216.—FISCHER and PELZELN, MT. Orn. Ver. Wien, 1886, 210 (Jan Mayen Land, breeding).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 333.—LÜTKEN, Ornith., 1885, 145 (Denmark).—GRÜNDAL, Ornith., 1886, 370 (Iceland).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 43; 3d ed., 1910, p. 36.—FEILDEN, Trans. Norw. Soc., iv, 1887, 351 (Digges Island, breeding).—HARVIE-BROWN and BUCKLEY, Fauna Sutherl., 1887, 234; Fauna Outer Hebrides, 1888, 149.—GREELEY, Rep. Exped. Lady Franklin Bay, ii, 1888, 22 (Smith Sound).—CHAMBERLAIN, Auk, vi, 1889, 215 (s. Greenland).—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 336.—CLARKE (W. E.), Zoologist, 1890, 50 (Jan Mayen Land, breeding habits); Proc. Roy. Phys. Soc. Edinb., xiv, 1899, 164-167 (descr. white stage).—BUCKLEY and HARVIE-BROWN, Fauna Orkney Is., 1891, 234.—GÄTKE, Vogelw. Helgoland, 1891, 567.—HAGERUP, Birds Greenland, 1891, 46.—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 418 (not found in Mackenzie).—OGILVIE, Zoologist, 1892, 114 (Aldeburgh).—HARTERT, Ibis, 1892, 521 (e. Prussia, 1 spec.).—LILFORD, Col. Figs. Brit. Birds, 1893, pt. xxvi.—GURNEY, Zoologist, 1894, 85 (Norfolk, England).—DUBOIS, Vertébr. Belg., Ois., ii, 1894, 580, pl. 290.—PORTER, Auk, xii, 1895, 76 (Stamford, Connecticut, Feb. 16 and March 3, 1894).—SCHALOW, Journ. für Orn., 1895, 464 (w. Greenland; descr. eggs); Vogel der Arktis, 1904, 145 (synonymy, range, etc.).—AMES, Auk, xviii, 1901, 106 (Toronto, Ontario, Dec. 2, 1898).—DWIGHT, Auk, xxiii, 1906, 34 (crit.).—FLEMING, Auk, xxiii, 1906, 442 (Toronto, Dec. 12, 1898).—PREBLE, N. Am. Fauna, no. 27, 1908, 264 (Felix Harbor, Boothia; Melville Island; Arctic coast, breeding; Cambridge Bay, Victoria Land, breeding).—JONES, Wilson Bull., xxi, 1909, 68 (Lorain, Ohio, Dec. 22, 1888).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 25, fig. 9 (range and migrations).
- [*Larus leucopterus* REINHARDT, Journ. für Orn., 1854, 443 (Greenland).—GRAY, Hand-list, iii, 1871, 112, no. 10962.—COUES, Key N. Am. Birds, 1872, 311.—SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverpool Mus., ii, no. 2, 1899, 58 (Davis Strait; Iceland; Barra Firth, Shetland Islands; crit.).
- L[arus] leucopterus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 243.—HÖLBOLL, Naturh. Tidsek., i, 1843, 418 (Greenland).—GRAY, Gen. Birds, iii, 1846, 654.—BLASIUS, Journ. für Orn., 1865, 382 (crit.).—NELSON, Bull. Essex Inst., viii, 1876, 145 (regular winter resident on Lake Michigan, north-east Illinois).—COUES, Key N. Am. Birds, 2d ed., 1884, 741.—RIDGWAY, Man. N. Am. Birds, 1887, 26.
- Laroides leucopterus* BREHM, Isis, 1830, 993; Vög. Deutschl., 1831, 746; Naumannia, 1855, 294.—BONAPARTE, Naumannia, 1854, 211.
- [*Laroides*] *leucopterus* BRUCH, Journ. für Orn., 1855, 281 (monogr.).

Glaucus leucopterus BRUCH, Journ. für Orn., 1853, 101.

[*Leucus*] *leucopterus* BONAPARTE, Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 217.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 358.

Leucus leucopterus OLPHE-GALLIARD, Orn. Eur. Occid., fasc. x, 1886, 47.

Larus (Leucus) leucopterus DROSTE, Vogelw. Borkum, 1869, 357.

Larus glaucoides MEYER, Taschenb., Zusätze, iii, 1822, 197 (Iceland and coasts of the North and Baltic Seas).—BOIE, Isis, 1822, 562.—TEMMINCK, Pl. Col., livr. 77, 1828, introd. *Larus*.

Laroides glaucoides BREHM, Isis, 1830, 993; Vög. Deutschl., 1831, 744; Naumannia, 1855, 294.

Larus molle TEILMANN, Dan. og Isl. Fugl., 1823, 159.

Larus arcticus MACGILLIVRAY, Mem. Wern. Soc., v, pt. i, 1824, 268 (Greenland).

[*Leucus*] *arcticus* BONAPARTE, Consp. Av., ii, 1857, 216.

Larus islandicus EDMONSTON, Mem. Wern. Soc., iv, 1823, 506 (not of p. 185, which = *L. glaucus*).—FLEMING, Brit. Anim., 1823, 139.—SELBY, Brit. Birds, ii, 1833, 501, pl. 98.—JENYNS, Man. Brit. Vertebr., 1835, 279.—GOULD, Birds Europe, v, 1837, pl. 433 and text; Birds Great Brit., v, 1873, pl. 58 and text.—MEYER, Brit. Birds, vii, 1857, 150, pl. 308.—FEILDEN, Zoologist, 1872, 3289 (Faroe Islands).

Larus icelandicus YARBELL, Brit. Birds, iii, 1843, 456; 2d ed., iii, 1845, 575.—THOMPSON, Birds Ireland, iii, 1851, 385.—GRAY (R.), Birds West Scotl., 1871, 484.

[*Leucus*] *minor* BONAPARTE, Compt. Rend., xlii, 1856, 770.

[*Leucus leucopterus*] *a minor* BONAPARTE, Consp. Av., ii, 1857, 217 (Iceland).

Laroides subleucopterus BREHM, Isis, 1830, 993; Vög. Deutschl., 1831, 746; Naumannia, 1855, 294.

[*Larus (Glaucus)*] *glacialis* (not of Brehm, 1824) BRUCH, Journ. für Orn., 1853, 101.

[*Larus (Laroides)*] *glacialis* BRUCH, Journ. für Orn., 1855, 282.

LARUS KUMLIENI Brewster.

KUMLIEN'S GULL.

Similar to *L. leucopterus*, but adults with four outer primaries with a subterminal space of deeper, more brownish, gray on outer webs, the second, third, and fourth, second and third, or third and fourth also with a subapical band of the same color; the young decidedly darker than that of *L. leucopterus*, and with bill blackish except at base.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts immaculate pure white; back, scapulars, and wings uniform pallid to pale neutral gray, the secondaries and five or six proximal primaries broadly and rather abruptly tipped with white; four to five distal primaries broadly and abruptly tipped with white, the second, third, and fourth (from outside), second and third, or third and fourth, with a subterminal band (usually extending across both webs but sometimes confined to inner web) of brownish gray, those on the second or fourth (or both) sometimes imperfectly developed or obsolete, more rarely only that on third complete;

four outer primaries with the outer web brownish gray subterminally, this sometimes confluent with the band on inner web but sometimes separated from the subterminal band by a white area; inner webs of primaries pure white (except for the subterminal brownish-gray band, when present), passing into delicate pale gray basally, the outermost sometimes with a narrow subterminal stripe of gray on inner web along shaft; bill yellow, the mandible with a lateral subterminal spot of red; iris cream color;^a naked orbital ring reddish purple;^a legs and feet flesh color.^a

Young.—General color brownish gray or grayish brown, this nearly uniform on under parts, the upper parts mottled with dull white and indistinctly mottled and irregularly barred with darker gray, the head and neck paler and very indistinctly streaked; primaries deep brownish gray, darker on outer webs; tail nearly uniform brownish gray, finely mottled basally and on outermost rectrices with whitish, the tail-coverts brownish gray or grayish brown more coarsely mottled or blotched with whitish; bill blackish, paler (flesh color in life?) basally; iris gray; legs and feet dull flesh color (in life).

Adult male.—Wing, 416; tail, 166; exposed culmen, 47; tarsus, 56; middle toe, 52.5.^b

Adult female.—Wing, 393; tail, 161; exposed culmen, 43; tarsus, 53; middle toe, 49.5.^c

Breeding from Cumberland Sound to Ruprecht Island, on eastern side of Ellesmere Land, in Lat. 79° N.; migrating southward to Nova Scotia (Bay of Fundy, about November 1, 1881); New Brunswick (Grand Menan, about January 21, 1883), Prince Edward Island (October 7, 1905), Quebec (Tadoussac, probably spring of 1901), and New York (mouth of Mohawk River, January 28, 1884; Rockaway Beach, Long Island, March 8, 1898).

(?) [*Larus* (*Laroides*)] *chalcopterus* (not *Larus chalcopterus* Lichtenstein, 1854) BRUCH, Journ. für Orn., 1855, 282, part (Greenland).

(?) [*Leucus*] *chalcopterus* BONAPARTE, Compt. Rend., xlii, 1856, 770, part (Greenland); Consp. Av., ii, 1857, 216, part (Greenland).

(?) *Larus chalcopterus* REINHARDT, Ibis, 1861, 17 (Greenland).

Larus glaucescens (not of Naumann, 1840) KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 98 (Cumberland Sound; Baffin Land).—BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 125 (Bay of Fundy, Nov. 1, 1881).—MERRILL, Bull. Nutt. Orn. Club, viii, 1883, 125 (Grand Menan, New Brunswick, Jan., 1883).

(?) *Larus leucopterus* (not of Faber, 1822) BANGS, Bull. Nutt. Orn. Club, vi, 1881, 121 (off Boston, Massachusetts).—CORY, Bull. Nutt. Orn. Club, vii, 1882, 60 (near Boston).—BREWSTER, Bull. Nutt. Orn. Club, viii, 1883, 125 (West Sullivan, Maine, Jan., 1883).

Larus leucopterus (or *kumlieni*) BRAISLIN, Auk, xvi, 1899, 190 (Rockaway Beach, Long Island, March 8, 1898).

^a In life, according to Kumlien.

^b One specimen (type of the species).

^c One specimen.

- Larus kumlieni* BREWSTER, Bull. Nutt. Orn. Club, viii, no. 4, Oct., 1883, 216 (Cumberland Sound; coll. U. S. Nat. Mus.).—PARK, Auk, i, 1884, 196 (Mohawk River, New York, Jan. 28, 1884.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 219.—HARVIE-BROWN, Proc. Roy. Phys. Soc. Edinb., viii, 1885, 301 (Newgummilook, 64° 30' W., 64° N.; crit.).—REICHENOW and SCHALOW, Journ. für Orn., 1885, 453 (reprint of orig. descr.).—AMERICAN ORNITHOLOGISTS' UNION, Check List., 1886, and 2d ed., 1895, no. 45; 3d ed., 1910, p. 37.—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 288 (Cumberland Sound, June 10).—SCHALOW, Vögel der Arktis, 1904, 144 (synonymy, range, etc.).—BRAISLIN, Auk, xxii, 1905, 168 (Rockaway Beach, Long Island, March 8, 1898).—ALLEN (F. H.), Auk, xxii, 1905, 205 (Boston Harbor, Feb 19; crit.); xxv, 1908, 296 (coast of Massachusetts in winter).—DWIGHT, Auk, xxiii, 1906, 36, pl. 1 (full descriptions; crit.).—HANTZSCH, Journ. für Orn., 1908, 325 (Labrador).—COOKE, Bull. 292, U. S. Dept. Agric., 1915, 28, fig. 11, (range and migrations).
- L[arus] kumlieni* COUES, Key N. Am. Birds, 2d ed., 1884, 742.—RIDGWAY, Man. N. Am. Birds, 1887, 27.
- [*Larus*] *kumlieni* SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53.

LARUS NELSONI Henshaw.

NELSON'S GULL.

Similar in coloration to *L. kumlieni*, but very much larger.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings pale gray (between pale and pallid neutral gray, exactly as in *L. argentatus*), the secondaries and five or six proximal primaries broadly, but not abruptly, tipped with white; five distal primaries marked subterminally with brownish gray as follows: Outermost primary with outer web deep brownish gray to within about 76.2 mm. of the tip (measured next to shaft), the inner web rather lighter gray for about the same distance, but broadly edged with white (the gray about 10 mm., the white about 20 mm. wide), this white confluent with that of terminal portion; second primary (from outside) tipped with white for about 61 mm., the brownish gray subterminal space on outer web about 58.5 mm. long next to shaft, but nearly twice as long (about 114 mm.) along the edge, the very oblique anterior outline very sharply defined against the pale gray of basal portion; third primary tipped with white for about 23 mm., preceded by a brownish gray area on outer web about 68.5 mm. long, the inner web being pale gray, like basal portion of outer web, but at about 63.5 mm. from tip fades into white, the latter, however, interrupted by a subterminal broad spot of mottled grayish, extending entirely across the web; fourth primary tipped with white for about 25.5 mm., the outer web then brownish gray for about 30 mm. along shaft and 63.5 mm. along edge, the pale gray of the remaining portion perceptibly paler next to the brownish gray subterminal space, the inner web having

an indistinct spot of brownish gray about opposite the distal end of the darker area on outer web, the inner web being nearly white for about 35.5 mm. anterior to this spot but gradually deepening into pale gray basally; fifth primary with the pale gray color fading gradually into white at about 45.5 mm. from tip, but the white terminal portion marked on both webs by a spot of brownish gray, that on outer web about 45.5 mm. broad on edge of the web, but less than half as wide next to shaft, that on inner web about 12.7 wide, and much more distinct than the corresponding spots on third and fourth primaries; bill deep yellow, the tip whitish, the mandible with a large subterminal lateral spot of red.

"*Young* (Vancouver I., 20th Dec.). This specimen is very similar to the young of *L. glaucescens*, but the retrices are of a deeper brown and unmottled on the exterior webs of the outermost pair. In this respect the bird resembles the young of *L. occidentalis*, but some new gray feathers appearing on the mantle are far too pale for that species. The measurements suit *L. nelsoni* better than *L. glaucescens*."^a

Adult male.—Wing, 468; tail, 194; exposed culmen, 57; tarsus, 69; middle toe, 64.^b

Adult female.—Wing, 417; tail, 172.5; exposed culmen, 51; tarsus, 61; middle toe, 54.^c

Breeding range unknown, and has been taken at few localities only, as follows: Alaska (St. Michael, June 20, 1880; Coast Bering Strait, date unrecorded; Point Barrow, Sept. 5, 1897); British Columbia (Vancouver Island, Dec. 20);^d Lower California (San San Gerónimo Island, Mar. 18, 1897).

[?] [*Larus*] *chalcopterus* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 99 (*nomen nudum*; Polar regions; coll. Berlin Mus.).

[?] [*Leucus*] *chalcopterus* BONAPARTE, Compt. Rend., xlii, 1856, 770; Conspect. Av., ii, 1857, 216, part (Bering Strait).

[?] [*Larus* (*Laroides*)] *chalcopterus* BRUCH, Journ. für Orn., 1855, 282 (monogr.).

[*Larus*] *glaucescens* (not of Naumann, 1840) GRAY, Hand-list, iii, 1871, 113, no. 10965, part.

Larus nelsoni HENSHAW, Auk, i, no. 3, July, 1884, 250 (St. Michaels, Alaska, coll. U. S. Nat. Mus.); in Nelson, Rep. N. H. Coll. Alaska, 1887, 53.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 222.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 46; 3d ed. 1910, p. 37.—NELSON, Rep. Nat. Hist. Coll. Alaska, 1887, 53 (Point Barrow, Alaska).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 287 (Alaska coast, Vancouver Island, Dec. 20).—DWIGHT, Auk, xxiii, 1906, 41 (crit.).—COOK, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 30, fig. 12 (range and migration).

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 288.

^b One specimen (the type).

^c One specimen.

^d Saunders, Cat. Birds Brit. Mus., xxv, 1896, 288. The specimen a young bird and the identification doubtful.

[Larus] nelsoni RIDGWAY, Man. N. Am. Birds, 1887, 27.

[Larus] nelsoni SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.

[?] *Larus kumlieni* (not of Brewster) MURDOCH, Exped. Point Barrow, 1885, 123 (Point Barrow, Alaska).

LARUS GLAUDESCENS Naumann.

GLAUCOUS-WINGED GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform pale neutral gray (deeper than in *L. leucopterus*), the secondaries extensively and rather abruptly white distally, the primaries becoming darker (the fourth and fifth, from outside, abruptly so) subterminally, and abruptly tipped with white; outermost primary with an additional white space immediately anterior to a subterminal spot 25 mm. or more long of deep gray, the second (from outside) gray to extreme tip or else with a very small white tip, and small white spaces at some distance from tip on one or both webs; sixth primary (from outside) with a broad subterminal bar or band of deep gray, preceded by a white area; bill yellow, whitish at tip, the mandible with a subterminal lateral spot of red; rictus flesh color; iris light yellowish gray or dull creamy white; naked orbital ring reddish flesh color (in life); legs and feet flesh color.

Adults in winter.—Similar to the summer plumage, but head and neck clouded with brownish gray; bill paler yellow or yellowish white, more decidedly yellow on culmen and tomia.

Young.—General color deep gray, nearly uniform on under parts but on upper parts broken by a coarse irregular spotting or mottling of grayish white or pale dull buffy, the head and neck indistinctly streaked; primaries and rectrices plain pale brownish gray, with a slight glaucous cast, the outermost rectrices more or less distinctly mottled with paler; bill blackish, paler basally; legs and feet brownish (in dried skins).

Immature.—Back, scapulars, etc., mixed pale gray and brownish gray or grayish brown; primaries and tail uniform brownish gray; head and neck grayish white clouded with brownish gray; under parts nearly uniform brownish gray; bill yellowish for basal half and tip, the intermediate portion dull blackish; legs and feet dull brownish (in dried skins).

Downy young.—Head, neck, and under parts dull buffy white, deepening into very pale buffy grayish on back, rump, and flanks; pileum and sides of head with a greater or less number of well-defined irregular spots of black, one on median portion of forehead, at base of culmen, the arm-wing with several large blackish or dusky spots,

the back, rump, and flanks irregularly striped or clouded with grayish dusky; bill black, broadly tipped with dull yellowish.

Adult male.—Wing, 411–452 (437.6); tail, 172–186.5 (180.6); exposed culmen, 53.5–61.5 (58.3); tarsus, 61.5–70 (65.9); middle toe, 58–66 (62.2).^a

Adult female.—Wing, 413–414 (413.5); tail, 171–177.5 (174.2); exposed culmen, 53.5–55 (54.2); tarsus, 61.5–63 (62.2); middle toe, 57–59 (58).^b

Breeding from coast of Washington (Destruction Island; Carroll Islet) northward along coast of British Columbia and Alaska, and westward over Aleutian Islands to Commander Islands, Kamchatka, thence northward to Pribilof Islands, Amak Island, and St. Lawrence Island, Bering Sea, Providence Bay, Siberia, and Noatak Bay, and Cape Denbigh, Alaskan mainland; migrating southward along Pacific coast of United States as far as Guadalupe Island, Lower California, and on Asiatic side to Japan (Hakodate).

[?] *Larus glaucopterus* KITTLITZ, in Lutke's Voy. 'Séniavine,' French translation, iii, 1836, 272, 280 (Unalaska); Denkw., i, 1858, 259, 335.

[*Larus*] *glaucopterus* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 99 (Bering Strait).

Larus glaucopterus SCHALOW, Journ. für Orn., 1891, 263 (Sitka and Unalaska, Alaska).

[?] [*Laroides*] *glaucopterus* BONAPARTE, Naumannia, 1854, 211 (Kamchatka).

[*Larus*] *glaucescens* NAUMANN, Vög. Deutschl., x, 1840, 351 (North America; coll. Berlin Mus.).

Larus glaucescens LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 842.—KITTLITZ, Denkw., i, 1858, 259, 285, 335.—BAIRD, Cat. N. Am. Birds, 1859, no. 657.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 294 (monogr.); Check List, 1873, no. 545; 2d ed., 1882, no. 770; Birds Northwest, 1874, 622 (monogr.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 304 (Sitka and Kodiak, Alaska).—ELLIOT, New and Unfig. N. Am. Birds, i, 1869, Introd. (wing figured and name transposed).—FINSCH, Abh. Nat. Ver. Brem., iii, 1872, 83 (Alaska).—DALL, Proc. Calif. Ac. Sci., v, 1873, 32 (Aleutian Islands, resident; habits, etc.); v, 1874, 278 (Kyska Island, Aleutians, breeding).—SWINHOE, Ibis, 1874, 165 (Hakodate, Japan).—BLAKISTON and PRYER, Ibis, 1878, 217

^a Ten specimens.

^b Two specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Mid- dle toe.
MALES.					
Seven adult males from Alaska.....	435.7	181.6	58.2	64.7	61.1
Two adult males from Washington (June).....	451.5	181	60.2	67.7	64.5
One adult male from Pering Island, Kamchatka (June).....	423	173	55	65	58.1
FEMALES.					
One adult female from Alaska (Sitka, June).....	413	171	55	63	58
One adult female from Pering Island (June).....	414	177.5	53.5	61.5	57

- (Hakodate); Trans. Asiat. Soc. Japan, viii, 1880, 189; x, 1882, 103.—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 167 (monogr.); Journ. Linn. Soc., xiv, 1878, 395 (range); Cat. Birds Brit. Mus., xxv, 1896, 284.—SEEBOHM, Ibis, 1879, 23 (Japan); Birds Japan. Emp., 1890, 290.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 206; Nom. N. Am. Birds, 1881, no. 662.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 168 (Port Clarence, Alaska).—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 62 (Commander Islands, Kamchatka, breeding; synonymy, crit., etc.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 223.—MCLENEGAN, Cruise 'Corwin,' 1884, 124 (Kowak River, Kotzebue Sound, and Bering Sea); Cruise 'Corwin,' 1885 (1887), 79 (Noatak River, Alaska, breeding).—TURNER, Auk, ii, 1885, 158 (Attu Island, Aleutians, breeding); Contr. N. H. Alaska, 1886, 125 (St. Michaels 1 spec.; Aleutian and Shumagin Islands; Kodiak; etc.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 44; 3d ed., 1910, p. 37.—EVERMANN, Auk, iii, 1886, 88 (Ventura Co., California, in winter).—NELSON, Rep. N. H. Coll. Alaska, 1887, 53 (Unalaska, Akutan, Sanak, and other Aleutian islands; St. Michaels, in summer; Sitka; Kodiak; habits).—TOWNSEND, Cruise 'Corwin,' 1885 (1887), 90 (Kowak River, Alaska).—PALMÉN, Vega-Exped. Vetensk., Bd. v, 1887, 369 (Pitlekaj, Tschuktach Peninsula).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., i, 1888, 36 (Farallon Islands, as late as May).—ALLEN, Auk, 1893, 123 (range).—FISHER (A. K.), N. Am. Fauna, no. 7, 1893, 13 (coast California south of San Simon, Nov.).—GRINNELL, Pub. 2, Pasadena Ac. Sci., 1898, 6 (Redondo, Los Angeles Co., California, winter; Santa Catalina Island, Dec.); Pacific Coast Avifauna, no. 11, 1915, 21 (California; winter visitant s. to San Diego).—HENSCHAW, Birds Hawaiian Is., 1902, 126 (Hawaii and Oahu, rare winter visitor).—DWIGHT, Auk, xxiii, 1906, 35 (crit.; descr. immature plumages).—JONES, Wilson Bull., no. 65, 1908, 197, cut (Carroll Islet, Washington, breeding; descr. nest and eggs).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 35 (San Francisco Bay; Unalga Pass, Unalaska, Atka, Attu, and Agattu, Aleutian chain; Commander Islands).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 10, in text (breeding on Amak Island, Bering Sea, but not seen farther northward).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 27, fig. 10 (range and migrations).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 373 (St. Lawrence Island, breeding; Providence Bay, Siberia, breeding; Copper Island, May 22).—HERSEY, Smithsonian. Misc. Coll., vol. 66, no. 2, 1916, 13 (Seattle, Washington, to Ketchikan, Alaska).
- [*Larus glaucescens* GRAY, Hand-list, iii, 1871, 113, no. 10965.—COUES, Key N. Am. Birds, 1872, 312.—SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58 (Kamchatka).
- L[arus] glaucescens* STEJNEGER, Proc. U. S. Nat. Mus., vi, 1883, 70 (Commander Ids.).—COUES, Key N. Am. Birds, 2d ed., 1884, 741.—RIDGWAY, Man. N. Am. Birds, 1887, 27.
- [*Larus (Glaucus)*] *glaucescens* BRUCH, Journ. für Orn., 1853, 101.
- [*Laroides*] *glaucescens* BONAPARTE, Naumannia, 1854, 212.
- [*Larus (Laroides)*] *glaucescens* BRUCH, Journ. für Orn., 1855, 281 (monogr.).
- [*Leucus*] *glaucescens* BONAPARTE, Compt. Rend., xlii, 1856, 770; Conspect. Av., ii, 1857, 216.
- Larus chalcopterus* (not of Lichtenstein) LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 843.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 295 (monogr.).
- [*Larus*] *chalcopterus* GRAY, Hand-list, iii, 1871, 113, no. 10964.
- Larus fuscus* (not of Linnaeus) PELZELN, Verh. Zool. Bot. Ges. Wien, 1873, [separate, p. 8].
- [?] *Larus borealis* (not of Bruch) TACZANOWSKI, Bull. Soc. Zool. France, 1882, 397.

LARUS THAYERI Brooks.^a

THAYER'S GULL.

"About the size of *L. kumlieni* Brewster, but differing in color of mantle, primaries, and having a larger and more heavy bill.

"The color of the mantle is intermediate between *kumlieni* and *argentatus*, darker than the former, lighter than the latter.

"The first primary is broadly tipped with white, the outer web blackish slate (Ridgway's Nomenclature of Color), on the inner web this color extends rather less than one-half across the web; second primary similar only with subterminal black band and blackish slate on inner web more narrow, on the outer web it does not extend so near the base of the feather as on the first; third primary with white tip, blackish slate on outer web less extensive, on inner web the black is limited to a subterminal patch about 35 mm. long extending across web; fourth primary with white tip, blackish slate on outer web extending about 45 mm., on inner web about 20 mm., fifth primary with white tip, then subterminal blackish slate band, then narrow poorly defined bar of white.

"*Measurements*.—Type, adult male: Wing, 406; tail, 167; tarsus, 65; bill, 57.

"Description of immature male taken by Joseph Dixon at Griffin Point, Arctic Alaska, June 25, 1914. Orig. No. 3752: First primary fuscous hair-brown on outer web, lighter on inner web, changing to a neutral gray, with narrow whitish tip; second primary similar but slightly darker on inner web, especially near tip where it is as dark as outer web, and extends to outer edge; third primary the same; fourth primary similar except that outer web has narrow lighter edge, and inner web for the most part neutral gray; fifth primary similar but no brown on inner web except a patch near the tip which extends across the web.

"The tail feathers are white with subterminal patches of fuscous hair-brown varying in size, being smaller on the outer feathers.

"The inner secondaries have light brown areas on outer webs about 30 mm. long, with pallid neutral gray edges." (Original description.)

Breeding in the high Arctic islands of northern Canada from Ellesmere Land westward to Banks Island, migrating south in winter chiefly on the Pacific coast to Vancouver Island, British Columbia; only one record from the Atlantic coast (Tadousac, Quebec, July 26).

^a Since the manuscript of this article was written, the material on which this supposed species was based, together with additional specimens, has been examined by Dr. Jonathan Dwight, Jr., who has found that complete intergradation with *L. argentatus* is clearly shown. Therefore, according to Dr. Dwight, the form should be known as *Larus argentatus thayeri*. (See Auk, xxxiv, Oct., 1917, 413, 414, pl., 15.)

Larus thayeri BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, no. 5, Sept., 1915, 373 (Buchanan Bay, Ellesmere Land, Arctic America, coll. Mus. Comp. Zool.).—ANDERSON, Summary Report Geological Survey of Canada for 1916, 1917, 377 (Bernard Harbor; Kater Point, Arctic Sound; Cape Kellett, Banks Island).

Larus argentatus thayeri DWIGHT, Auk, xxxiv, 1917, 414, pl. 15 (localities; crit.).
Larus argentatus TAVERNER, Summary Report Geological Survey of Canada for 1916, 1917, 356 (near Barkley Sound, Vancouver Island, B. C.; crit.).

LARUS MARINUS Linnaeus.

GREAT BLACK-BACKED GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform dark sooty gray or blackish gray (between dark quaker drab and deep slaty brown), the tertials and secondaries broadly (the latter abruptly) tipped with white; outermost primary black, tipped with white for about 63–75 mm., the second (from outside) similar but more grayish basally and the white terminal area interrupted by a broad black bar on one or both webs; third, fourth, and fifth primaries becoming successively and more extensively, more grayish basally, tipped with white and with an extensive black sub-terminal area preceded by white, either in form of a spot or bar or shading gradually into the dusky gray of proximal portion; remaining (proximal) primaries dark sooty gray broadly tipped with white; bill deep yellow, paler at tip, the mandible red subterminally; rictus orange-red or vermillion (in life); iris pale yellow, whitish or silvery; bare orbital ring vermillion (in life); legs and feet pale flesh color.

Adults in winter.—Similar to the summer plumage, but pileum and hindneck streaked with dusky.

Young.—Upper parts dark slaty brown or dusky, the feathers broadly margined with pale dull buffy; remiges dusky or blackish, narrowly tipped with whitish; tail dusky, narrowly tipped with white and crossed on distal portion by a narrow band of grayish or brownish white; head, neck, and under parts dull whitish, the pileum, hindneck, and sides of head and neck streaked with dusky grayish brown, the under parts (except throat) clouded or irregularly spotted with grayish brown; bill blackish, sometimes paler basally; iris brown; legs and feet dull whitish (in life).

Downy young.—General color dull grayish white, the upper parts marbled or irregularly spotted with dull grayish; head marked with irregular well-defined spots of black, as follows: Forehead with a narrow mesial streak; crown with two spots, one behind the other, with a minute spot on each side, opposite the space between the two larger spots; occiput with four large spots, arranged in transverse series, and below these three others, their position corresponding to

the spaces in the series above; below these three spots a ragged or irregular band across each side of nape, the two separated by a considerable interval, and still lower, on hindneck two or three spots of rather indefinite form and arrangement; three small loreal spots, arranged longitudinally; a spot above each eye, and several irregular large spots on lower portion of head, rather less distinctly defined than the others.

Adult male.—Wing, 486; tail, 198; exposed culmen, 68; tarsus, 75; middle toe, 69.^a

Adult female.—Wing, 465–494 (479.5); tail, 185–201 (192); exposed culmen, 59.5–62 (60.7); tarsus, 73–77 (75); middle toe, 69–74.5 (71.7).^b

Breeding along Atlantic coast of North America, from Nova Scotia (Halifax, Kentville, Pictou), Anticosti Island, Quebec (Godbout; Point de Monts), Newfoundland, and coast of Labrador, northward to western coast of Greenland, as far as lat. 73° (Upernavik), Iceland, Shetland Islands, and thence to northern Russia (Petchora River); migrating southward to New Jersey, casually to Florida (St. Augustine, winter 1894–95), Cuba, and Bermudas (Dec. 1851, Dec. 27, 1862), in the interior to Yates County and Buffalo, New York, Toronto, Ontario, Olentangy River at Columbus, Ohio (Dec. 16, 1907), northeastern Illinois (Lake Michigan, near Chicago), and Mackinac Island and near Detroit (March, 1904), Michigan, and on eastern side of Atlantic Ocean to Azores, Canary Islands, and (more rarely) shores of Mediterranean Sea, casually to coast of Senegal, western Africa.

[*Larus*] *marinus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 136 (s. Sweden); ed. 12, i, 1766, 225.—GMELIN, Syst. Nat., i, pt. ii, 1789, 598.—LATHAM, Index Orn., ii, 1790, 813.—MARTENS, Journ. für Orn., 1859, 223 (Bermudas).—GRAY, Hand-list, iii, 1871, 112.—COUES, Key N. Am. Birds, 1872, 312.—SHARPE, Hand-list, i, 1899, 141.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 57.

Larus marinus MÜLLER, Nat. Syst., ii, 1773, 346.—FABRICIUS, Fauna Groenlandica, 1780, 102.—BODDAERT, Tabl. Pl. Enl., 1783, 58.—MOHR, Island. Naturh., 1786, 42.—RETZIUS, Fauna Suecica, 1790, 156.—BONNATERRE, Tabl. Enc. Méth., i, 1790, 84.—BECHSTEIN, Naturg. Deutschl., ii, 1791, 815.—WOLF and MEYER, Naturg. Vög. Deutschl., Heft xx, 1805, 58, with pl.—TEMMINCK, Cat. Syst., 1807, 185; Man. d'Orn., 1815, 490; 2d ed., ii, 1820, 760; iv, 1840, p. 471.—MEYER and WOLF, Taschenb. Vög. Deutschl., ii, 1810, 465.—MEYER, Vög. Liv-u. Esthl., 1815, 230.—MEISNER and SCHINZ, Vög. Schweiz, 1815, 266.—NILSSON, Orn. Suec., 1817, 164.—CUVIER, Règne Anim. Ois., 1817, 340, Atlas, pl. 92.—SABINE, Trans. Linn. Soc., xii, 1818, 543 (Baffin Bay).—VIEILLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 507; Faun. Franç., Ois., 1828, 392.—BREHM, Vogelk., iii, 1822, 756; Lehrb., 1824, 735. Vög. Deutschl., 1831, 731; Vogelf., 1855, 338.—STEPHENS, Shaw's Gen.

^a One specimen, from France.

^b Two specimens from Labrador and Massachusetts, respectively.

Zool., xiii, pt. i, 1826, 186.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 362; Geog. and Comp. List, 1838, 63.—WERNER, Atlas, Palmipèdes, 1828, pl. 17.—FLEMING, Brit. Anim., 1828, 140.—SELBY, Brit. Birds, ii, 1833, 507, pl. 97.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 308.—JENYNS, Man. Brit. Vertebr., 1835, 278.—AUDUBON, Orn. Biog., iii, 1835, 305, pl. 241; v, 1839, 636; Synopsis, 1839, 329; Birds Am., 8 vo ed., vii, 1844, 172, pl. 450.—EYTON, Cat. Brit. Birds, 1836, 53.—GOULD, Birds Europe, v, 1837, pl. 430 and text; Birds Great Brit., v, 1873, pl. 55 and text.—NAUMANN, Vög. Deutschl., x, 1840, 438, pls. 268, 269.—SCHINZ, Eur. Faun., 1840, 379.—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 244; Brit. Birds, v, 1852, 526.—SELYS-LONGCHAMPS, Faune Belge, 1842, 154.—YARRELL, Brit. Birds, iii, 1843, 471; 2d ed., iii, 1845, 591.—GRAY, List Birds Brit. Mus., Anseres, 1844, 168; Cat. Brit. Birds, 1863, 231.—SCHLEGEL, Rev. Crit., 1844, p. cxxiv; Vog. Nederl., 1854, 596, pls. 343, 344; Dier. Nederl. Vogels, 1861, 235; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 10.—MÜHLE, Orn. Griechenl., 1844, 145.—GIRAUD, Birds Long Island, 1844, 361.—HEWITSON, Eggs Brit. Birds, ii, 1846, 447, pl. 128, fig. 1.—DEGLAND, Orn. Eur., ii, 1849, 301.—JARDINE, Contr. Orn., 1849, 87 (Bermudas).—REICHENBACH, Syst. Nat., 1850, pl. 5; Av. Syst. Nat., Longipennes, 1852, pp. iv, v.—THOMPSON, Birds Ireland, iii, 1851, 377.—KJÆRBØLLING, Dann. Fugle, 1852, 324, pl. 42; Suppl., 1854, pl. 23.—REINHARDT, Journ. für Orn., 1854, 443 (Greenland); Ibis, 1861, 16 (Greenland).—HEUGLIN, Syst. Ueb., 1856, 69 (Lower Egypt).—MEYER, Brit. Birds, vii, 1857, 159, pl. 310.—ÇABANIS, Journ. für Orn., 1857, 236 (Cuba).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 844; Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—BAIRD, Cat. N. Am. Birds, 1859, no. 660.—LINDERMAYER, Vög. Griechenl., 1860, 177.—OONES, Proc. Ac. Nat. Sci. Phila., 1861, 244 (coast Labrador, breeding; habits, etc.); 1862, 295 (monogr.); Check List, 1873, no. 546; 2d ed., 1882, no. 771; Birds Northwest, 1874, 624 (monogr.).—GUNDLACH, Journ. für Orn., 1862, 95 (Cuba; crit.).—VERRILL, Proc. Essex Inst., iii, 1862, 159 (breeding on islands in Bay of Fundy).—MALMGREN, Journ. für Orn., 1863, 453 (Spitzbergen).—GRAY, Cat. Brit. Birds, 1863, 231.—NEWTON, in Baring-Gould's Iceland, 1863, 418; Arctic Man., 1875, 107 (Greenland, 63°–68° N.).—SALVADORI, Ucc. Sardin., 1864, 130; Faun. Ital., Ucc., 1872, 295; Ucc. Ital., 1887, 287.—BLASIUS, Journ. für Orn., 1865, 379 (crit.).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 413.—DODERLEIN, Avif. Sicil., 1869, 232.—DROSTE, Journ. für Orn., 1869, 384 (Faroes); Vogelw. Borkum, 1869, 353.—FRITSCH, Vög. Eur., 1870, 427, pl. 55, fig. 8.—SAUNDERS, Ibis, 1871, 400 (s. w. Spain); 1884, 39 (s. w. France); Proc. Zool. Soc. Lond., 1878, 179 (monogr.); ed. Yarrell's Brit. Birds, iii, 1884, 631; Man. Brit. Birds, 1889, 661; Cat. Birds Brit. Mus., xxv, 1896, 241, 458.—GRAY (R.), Birds West Scotl., 1871, 488.—GODMAN, Ibis, 1872, 223 (Alleganza, Canary Islands).—HARTING, Handb. Brit. Birds, 1872, 77.—SUNDEVALL, Svensk. Fogl., 1872, pl. 50, fig. 5.—DRESSER, Birds Europe, viii, 1872, 427, pl. 604.—COLLETT, Forh. Selsk. Christiania, 1873, 297 (n. Norway).—PALMÉN, Finlands Fogl. 1873, 601.—MARCHAND, Rev. Zool., 1873, pl. 12 (downy young).—HEUGLIN, Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1279.—FINSCH, Abh. Nat. Ver. Bremen, v, 1876, 364 (s. Greenland).—BROOKE, Ibis, 1873, 348 (Sardinia).—IRBY, Orn. Straits Gibralt., 1875, 215.—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 452 (Lower Petchora, Russia).—MERRIAM, Birds Connecticut, 1877, 132, 142, 146; Bull. Nutt. Orn. Club, vii, 1882, 241 (Point de Monts, Quebec, breeding).—REID, Zoologist, 1877, 489 (Bermuda); Bull. U. S. Nat. Mus., no. 25, 1884, 265 (Bermuda, Dec., 1851, and Dec. 27, 1862).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 99 (Greenland, n. to 70° N.).—RODD, Birds Cornwall,

- 1880, 173.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 206; Nom. N. Am. Birds, 1881, no. 663.—MAYNARD, Birds E. N. Am., 1881, 483 (to Florida in winter).—CLARKE, Handb. Yorkshire Vertebr., 1881, 83; Ibis, 1895, 210 (Rhône delta, France).—GIGLIOLI, Ibis, 1881, 220 (Genoa, Italy); Avifaun. Ital., 1886, 663; 1 Resoc. Avif. Ital., 1889, 648.—SEEBOHM, Ibis, 1882, 386 (Archangel, Russia; Kanin Peninsula, breeding); Hist. Brit. Birds, iii, 1885, 323.—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 396 (Anticosti Island, numerous and breeding; habits).—ROCHEBRUNE, Faun. Sénég., Ois., 1884, 333 (Cape Blanco, etc., Senegal).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 225.—RADDE, Orn. Caucas., 1884, 479 (not found on Caspian Sea).—TORRE and TSCHUDI, Ornith., 1885, 560 (Hungary).—GRÖNDAL, Ornith., 1886, 370 (Iceland).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 47; 3rd ed., 1910, p. 37.—TAIT, Ibis, 1887, 396 (Portugal).—RHOADS, Auk, v, 1888, 318 (Atlantic City, New Jersey, in winter).—HARVIE-BROWN and BUCKLEY, Faun. Sutherland, etc., 1887, 233; Faun. Outer Hebrides, 1888, 148; Faun. Argyll, etc., 1892, 192.—LILFORD, Ibis, 1889, 349 (Cyprus); Col. Figs. Brit. Birds, pt. xxv, 1893.—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 63.—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 341.—RIVES, Cat. Birds Virg., 1890, 41 (Cobb's Island, Virginia, rare in winter).—GÄTKE, Vogelw. Helgoland, 1891, 567.—FATIO and STUDER, Cat. Ois. Suisse, 1892, 60, 61.—MEADE-WALDO, Ibis, 1893, 206 (Canary Islands, rare).—ALLEN, Auk, x, 1893, 123 (range).—WHITE, Auk, x, 1893, 222 (Mackinac Island, Michigan, rare migrant).—DUBOIS, Vertebr. Belg., Ois., ii, 1894, 583, pl. 291.—PEARSON and BIDWELL, Ibis, 1894, 236 (n. Norway).—STONE (W.), Birds E. Penn. and N. J., 1894, 43 (New Jersey coast, rare in winter).—PEARSON, Ibis, 1895, 245 (Iceland; breeding habits); 1896, 213 (Russian Lapland; descr. young).—SAVAGE, Auk, xii, 1895, 312 (Buffalo, New York, Jan., 1894, Feb. 19, 20, and 22, 1895).—SCHALOW, Journ. für Orn., 1895, 465 (w. Greenland; descr. eggs).—POPHAM, Ibis, 1897, 106 (north of Golchika, Yenesei River, Siberia).—STONE (C. F.), Auk, xvi, 1899, 284 (Yates Co., New York, April 18, 1896; about 15 seen, 1 shot).—BRAISLIN, Auk, xvii, 1900, 71 (Adies Pond, Newfoundland, breeding).—BIGELOW, Auk, xix, 1902, 26 (coast n. e. Labrador, breeding).—HARTERT and GRANT, Novit. Zool., xii, 1905, 102 (San Miguel, Azores).—FLEMING, Auk, xxiii, 1906, 442 (Toronto, Ontario, winter resident).—JONES, Wilson Bull., xx, 1908, 54 (Olentangy River, Ohio, Dec. 16, 1907).—ARNOLD, Auk, xxix, 1912, 75 (Newfoundland, breeding).—WEBER, Auk, xxix, 1912, 100 (near Jones Inlet, Long Island, Aug. 14, 1910).—BANNERMAN, Bull. Brit. Orn. Club, xxxiii, 1913, 58, in text (Allegranza Island, Canaries, formerly breeding).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Survey), 1915, 30, fig. 13 (range and migrations).
- L[arus] marinus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 245.—GRAY, Gen. Birds, iii, 1846, 654.—BLASIUS, Journ. für Orn., 1865, 379.—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Lake Michigan, n. e. Illinois, in winter); Man. N. Am. Birds, 1887, 28.—NELSON, Bull. Essex Inst., viii, 1876, 145 (not uncommon resident on Lake Michigan, n. e. Illinois, in winter).—COUES, Key N. Am. Birds, 2d ed., 1884, 742.
- [Lencus] marinus* KAUP, Natürl. Syst., 1829, 86, 196.
- [Dominicanus] marinus* BRUCH, Journ. für Orn., 1853, 100; 1855, 280 (monogr.).—BONAPARTE, Compt. Rend. xlii, 1856, 770; Conspr. Av., ii, 1857, 213.—HEIM and REICHENOW, Nom. Mus. Hein. Orn., 1890, 357.
- Dominicanus marinus* LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 177.—OLPHE-GALLIARD, Faun. Eur. Occid., fasc. x, 1886, 34.
- [Larus marinus]* γ LATHAM, Index Orn., ii, 1790, 814 (= *Larus marinus* Linnaeus).

- Larus maculatus* (not of Brünnich, 1764) BODDAERT, Tabl. Pl. Enl., 1783, 16 (based on *Le Grisard* Daubenton, Pl. Enl., pl. 266; *Le Goeland varié ou Le Grisard* Buffon, Hist. Nat. Ois., xvi, 200; Brisson, Orn., vi, 167).
- Larus giganteus* BENICKEN, Ann. Wetterau. Gesel., iii, 1812, 140 (Baltic Sea;= young).—TEMMINCK, Man. d'Orn., 1815, 490, footnote.
- Larus maximus* (not of O'Reilly, 1818) LEACH, Syst. Cat. Brit. Mus., 1816, 40.—BREHM, Beitr. Vogelk., iii, 1822, 741; Lehrb., 1824, 733; Isis, 1830, 993; Vög. Deutschl., 1831, 728; Naumannia, 1855, 294; Vogelf., 1855, 337.—BLAGG, Ibis, 1893, 356 (Shetland Islands, breeding; habits).
- [*Larus*] *mülleri* BREHM, Isis, 1830, 993 (*nomen nudum*); Naumannia, 1855, 294.
- Larus mülleri* BREHM, Vög. Deutschl., 1831, 729, (Iceland in winter to the German and Holland coasts); Vogelf., 1855, 337.
- [*Larus*] *fabricii* BREHM, Isis, 1830, 993 (*nomen nudum*).
- Larus fabricii* BREHM, Vög. Deutschl., 1831, 730 (Greenland and in winter to coast of middle Europe); Vogelf., 1855, 337; Naumannia, 1855, 294.
- Larus nigripallus* DUBOIS, Pl. Col. Ois. Belg., iii, 1860, 240.
- Larus albus* MÜLLER, Natureyst., Suppl., 1776, 108 (Europe; based on *Le Grisard* Daubenton, Pl. Enl., pl. 266).

LARUS SCHISTISAGUS Stejneger.

SLATY-BACKED GULL.

Similar to *L. marinus*, but slightly smaller; back, scapulars, and wings decidedly lighter and less sooty (much as in *L. occidentalis*, but averaging decidedly darker), and first (outermost) primary, as well as second and third, with a distinct gray "wedge" on inner web.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform deep gray (neutral gray to deep neutral gray), the secondaries and tertials rather broadly tipped with white, the proximal primaries more broadly and abruptly tipped with white; four outer primaries with outer webs black, or slaty black, becoming more grayish basally, their inner webs for the greater part deep neutral gray or dull slate-gray, but abruptly blackish subterminally; outermost primary abruptly tipped with white, for about 53.5 mm. (measured along shaft), both webs with a small spot of blackish at edges, about 10 mm. from tip; second (from outside) with the terminal white spot only about 10 mm. in extent, but the inner web with a large oval spot of white, about 23 mm. long, within the black area; third with the white terminal spot about the same size as that on the second, the inner web with a grayish white space, commencing about 40.5 mm. from tip, abruptly defined, with a strongly convex outline, against the subterminal black area, but not distinctly contrasted with the gray of basal portion; fourth primary similar to third, but the white space on inner web more distinct and commencing only about 33 mm. from tip; fifth similar, but with white space on inner web still larger and nearer to tip (about 25.5 mm.), and the outer web deep neutral gray or dull slate-gray to within about 38 mm. of

tip, the extremity of this grayish portion obtusely wedge-shaped and fading into white at the apex; sixth primary without any distinct black area on inner web, which is white for about 45.5 mm. from tip (measured along shaft), the outer web white for about 15.5 mm., then slaty black for about 18 mm. (measured along edge), the anterior outline of the black deeply concave and partially inclosing a grayish white space; bill deep yellow, paler at tip, the mandible with a subterminal lateral spot of red; rictus yellowish flesh-color; iris Naples yellow or yellowish cream color; bare orbital ring purplish gray (in life); legs and feet pinkish flesh color (in life).

Adults in winter.—Similar to summer adults, but head and neck (especially pileum and hindneck) streaked with dusky.

Young.—"Clove-brown, with darker streaks on the head and neck, dark centers and buffish-white margins to the feathers of the mantle; rectrices nearly uniform brown, with very little marbling at the bases and on the outermost; primaries brown, paler on their inner webs; edge of wing and coverts almost unmottled grayish brown; under surface brown, the tail-coverts striated; bill dark horn-color, paler at the base; tarsi and toes reddish brown."^a

Adult male.—Wing, 445–470 (458.6); tail, 179–196 (189.2); exposed culmen, 59–65.5 (61.9); tarsus, 64–72 (68.7); middle toe, 62–65.5 (64).^b

Adult female.—Wing, 436; tail, 182; exposed culmen, 54; tarsus, 59; middle toe, 55.5.^c

Coasts and islands of eastern Siberia and Kamchatka and Okotsk Sea, breeding from eastern Siberia (Plover Bay; coast near Bering Strait; Gichiga) to Kuril Islands; migrating southward to northern Japan (Hakodate; Sakhalin Island; Samushi Island, and mouth of Amur River; casual or occasional in Alaska (Chernoffsky Bay, Unalaska, large flock, Oct. 1, 1880; Port Clarence; Sitka), on Diomed Islands in Bering Strait (Sept., 1880), and on Herald Island, Arctic Ocean; accidental at Franklin Bay, Mackenzie (June 9, 1901).

Larus argentatus (not of Pontoppidan, 1763) MIDDENDORFF, Reis. Sibir., Zool., 1851, 243, part (Okhotsk Sea).—KIRTLITZ, Denkw. Reis., ii, 1858, 225, part.

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 259, 260.

^b Five specimens.

^c One specimen (Kuril Islands, June).

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Bering Island, Kamchatka (May 5).....	463	191	60	66	62
Four adult males from Kuril Islands (June, August).....	457.5	188	62.4	60.4	64.5

- Larus cachinnans* (not of Pallas, 1826) KITTLITZ, Denkw. Reis., i, 1858, 336.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 327 (Amurland, crit.); 1871, 421 (China coast; crit.); Ibis, 1863, 428 (Formosa).—STEJNEGER, Naturen, 1884, 6 (Bering Island).
- Larus argentatus* var. *cachinnans* SCHRENCK, Reis. Amurl., i, 1860, 504 (Amur River).
- Larus fuscescens* (not of Bruch, 1853) MEVES, Oefv. Ak. Förh., 1871, 787.
- [*Larus*] *borealis* (not of Bruch, 1853) GRAY, Hand-list, iii, 1871, 113, no. 10976.
- Larus borealis* SEEBOHM, Ibis, 1884, 32 (Kuril Islands; crit.).—BLAKISTON, Amend. List Birds Japan, 1884, 20, 34.
- (?) *Larus occidentalis* (not of Audubon) WHITELEY, Ibis, 1867, 210 (Hakodate, Japan).
- Larus marinus* (not of Linnæus) SWINHOE, Ibis, 1874, 165 (Hakodate; Japan; crit.).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 180, part (Hakodate monogr.).—BLAKISTON and PRYER, Ibis, 1878, 217 (Hakodate); Trans. Asiat. Soc. Japan, x, pt. i, 1882, 104.—SEEBOHM, Ibis, 1879, 24 (Japan); Birds Japan. Emp., 1890, 291.—RIDGWAY, Bull. Nutt. Orn. Club, vii, 1882, 60 (Herald Island, Arctic Ocean, and Port Clarence, Alaska).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 168 (Chernoffsky, Unalaska Island, Oct. 1).—NELSON, 'Cruise 'Corwin' in 1881 (1883), 107 (Greater Diomed Island, Bering Strait; Chernoffsky, Unalaska; Port Clarence).—SCHALOW, Journ. für Orn., 1891, 262, 263 (Sitka, Alaska).
- Larus pelagicus* (not of Bruch, 1853) TACZANOWSKI, Bull. Soc. Zool. France, 1876, 263; 1882, 397; Orn. Faun. Vost. Sibir., 1877, 64.
- Larus schistisagus* STEJNEGER, Auk, i, no. 3, July, 1884, 231 (Bering Island, Commander group, Kamchatka; coll. U. S. Nat. Mus.); Bull. U. S. Nat. Mus., no. 29, 1885, 67 (Bering Island; Petropaulski; Bay of Avatscha and Staritskof Island, breeding; descr.; crit., etc.); Proc. U. S. Nat. Mus., x, 1887, 119, (Commander Islands; crit.); xxi, 1898, 276 (Kuril Islands, Japan, breeding; crit.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 229 (Unalaska and Port Clarence, Alaska; Herald Island; Plover Bay; Bering Island; Petropaulski; Japan).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 48; 3rd ed., 1910, p. 37.—NELSON, Rep. Nat. Hist. Coll. Alaska, 1887, 53 (Diomed Islands; Chernoffsky Bay, Unalaska; Petropaulski, Kamchatka).—NIKOLSKI, Sakhalin Faun., 1889, 270 (Sakhalin Island).—TACZANOWSKI, Mém. Ac. St. Petersb. (7), xxxix, 1893, 1024 (e. Siberia).—ALLEN, Auk, x, 1893, 123 (range); Bull. Am. Mus. N. H., xxi, 1905, 225 (Gichiga, n. e. Siberia, breeding; habits).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 258 (Kuril Islands, June; mouth of Amur River, May 21; Hakodate, Japan).—SCHALOW, Vogel der Arktis, 1904, 141 (synonymy, range, etc.).—PREBLE, North Am. Fauna, no. 27, 1908, 264 (Franklin Bay, Mackenzie, June 9).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 35 (Ulaga Pass, near Unalaska Island; Commander Islands; Petropaulski; Samushi Island, Kurils; Sakhalin Island, Sept.).—HENNINGER, Wilson Bull., xxii, 1910, 119 (coast Siberia, near Bering Strait, breeding; descr. eggs).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 33, fig. 14 (range and migrations).—THAYER and BANGS, Auk, xxxiii, 1916, 44 (Sakhalin Island, May 11).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 373 (Cape Shipunski, Siberia, May 21; Avatscha Bay, Kamchatka, May).—HERSEY, Smithsonian Misc. Coll., lxvi, no. 2, 1916, 13 (off Nome, Alaska).—GIANINI, Auk, xxxiv, 1917, 397 (Stepovak Bay, Alaska Peninsula).
- L[arus] schistisagus* RIDGWAY, Man. N. Am. Birds, 1887, 29.

[*Larus schistisagus* SHARPE, Hand-list, i, 1899, 141.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.

Larus marinus schistisagus SEEBOHM, Birds Japan. Emp., 1890, 291.

LARUS AFFINIS Reinhardt.

SIBERIAN GULL.

Similar to *L. schistisagus*, but much smaller (about the size of *L. occidentalis*), bill much more slender, color of back, etc., slightly lighter, third primary (from outside) without any white space on inner web between the black and gray areas, and iris, orbital ring, and feet very different in color.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars and wings warm neutral gray to nearly mouse gray, the tertials, secondaries, and proximal primaries tipped with white, the distal primaries abruptly tipped with white and marked subterminally with black; second primary (from outside) with a distinct gray "wedge" on inner web; bill yellow, the mandible with a subterminal lateral spot of red, the maxilla sometimes tinged with red in front of nostril; iris yellow; bare orbital ring orange-red or vermilion in life; legs and feet yellow (in life).

Adults in winter.—Similar to summer adults, but head and neck, all round, heavily spotted or broadly streaked with dusky, yellow of bill paler or more greenish, and yellow of feet paler.

Young.—(No specimens available. Said to be like that of *L. fuscus*, but with general color of back and wings lighter).

Adult female.^a—Wing, 423–424 (427); tail, 157–165 (160); exposed culmen, 51.5–52.5 (52); tarsus, 61–68.5 (64); middle toe, 49–54 (52).^b

Breeding in northern Russia and Siberia, from Dwina River to Yenesei River and Taimyr Peninsula (doubtfully in valley of Lena River); migrating southward as far as Mekran coast, western side of India, Gulf of Aden, island of Socotra, and coast of Somaliland, eastern Africa; accidental in southwestern Greenland (Nenortalik, Julianehaab) and southwestern France (Hendaye).

[?] *Larus kittoreus* (not of FORSTER, Descr. Anim., 1844 c) FORSTER, Indian Zool., 1781, 42.

Larus, sp. n.? JERDON, Madras Journ., xii, 1840, 225 (Deccan, India).

Larus fuscus (not of LINNÆUS) HUTTON, Journ. Asiat. Soc. Beng., xv, 1847, 792 (Cabul, Afghanistan).—BLYTH, Cat. Birds Mus. Asiat. Soc., 1849, 288, part (see Hume, Stray Feath., iv, 502).—JERDON, Birds India, iii, 1864, 839 (Jaulna, Deccan).—FILIPPI, Viagg. Pers., 1865, 352 (Caspian Sea).—BLYTH, Ibis, 1897, 176, 314.—BLANFORD, East. Pers., ii, 1876, 290 (Beluchistan).

^a No adult males examined.

^c = *Larus dominicanus* Lichtenstein.

^b Three specimens.

- [*Larus*] *cachinnans* (not of Pallas) LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 99 (Arabia).
- Larus cachinnans* MEVES, Oefv. K. Vet.-Ak. Förh., 1871, 786 (Cholmogony, Dwina).—HEUGLIN, Orn. N. O.-Afr., Bd. ii, 1873, 1392, part (Somali coast).—MEVES and HOMEYER, Orn. 1886, 275 (lower Dwina).
- Larus (Dominicanus)* *cachinnans* BRUCH, Journ. für Orn., 1853, 100.
- [*Larus (Laroides)*] *cachinnans* BRUCH, Journ. für Orn., 1855, 282.
- [*Chupeilarus*] *cachinnans* BONAPARTE, Consp. Av., ii, 1857, 221, part.
- Larus affinis* REINHARDT, Vid. Medd. Nat. Forh. Kjobenhavn, 1853, 78 (Nenortalic, Julianehaab, s. Greenland; coll. Royal Mus. Copenhagen); Journ. für Orn., 1854, 433; Ibis, 1861, 17 (Greenland; crit.).—SEEBOHM and HARVIE-BROWN, Ibis, 1876, 452 (Lower Petchora, Russia; crit.).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 171 (monogr.); Journ. Linn. Soc., xiv, 1878, 397 (range); Cat. Birds Brit. Mus., xxv, 1896, 254.—GÄTKE, Ibis, 1878, 489 (Helgoland).—FINSCH, Ibis, 1879, 111 (Tajo, Lissabon; Katwijk, near Leyden; Kamchatka; Macao); Verh. z.-b. Ges. Wien, 1879, 268 (w. Siberia).—SEEBOHM, Ibis, 1879, 162 (Yenesei River, Siberia; habits; range).—HUME, Stray Feath., viii, 1879, 115.—VIDAL, Stray Feath., ix, 1880, 94 (s. Konkan, Malabar).—BUTLER, Stray Feath., ix, 1880, 439 (Deccan coast).—DRESSER, Birds Europe, viii, 1880, 417; Ibis, 1904, 234 (Taimyr Peninsula, Siberia, breeding; descr. nest); 1908, 513 (Taimyr Peninsula; descr. nest and eggs, etc.).—SCLATER and HARTLAUB, Proc. Zool. Soc. Lond., 1881, 174 (Socotra Island).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 665.—COUES, Check List, 2d ed., 1882, no. 776.—OLPHE-GALLIARD, Ibis, 1885, 236 (Hendaye, s. w. France); Orn. Eur. Occid., fasc. x, 1886, 66.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 50; 3rd ed., 1910, p. 38.—PLESKE, Mém. Acad. St. Petersb. (7), xxxvi, 1888, 56 (Turkestan).—PEARSON, Ibis, 1896, 219 (Kolguev, n. Russia), 224 (Novaya Zemlya); 1898, 203 (Waigats, Dolgoi Island, Novaya Zemlya, and Habarova, n. e. Russia).—POPHAM, Ibis, 1897, 106 (Yenesei River, Siberia, breeding; habits; descr. nest and eggs); 1898, 519 (Yenesei River).—GRANT, Novit. Zool., vii, 1900, 270 (s. Arabia).—SCHALOW, Vogel der Arktis, 1904, 140 (synonymy, range, etc.).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 35, fig. 17 (range and migrations).
- [*Larus*] *affinis* COUES, Key N. Am. Birds, 2d ed., 1884, 745.—RIDGWAY, Man. N. Am. Birds, 1887, 29.
- [*Larus*] *affinis* REINHARDT, Journ. für Orn., 1854, 443 (Greenland).—SHARPE, Hand-list, i, 1899, 141.
- Larus affinis affinis* LOWE, Ibis, July, 1914, 397, in text.
- Larus fuscus affinis* KENNEDY, Ibis, Jan., 1917, 31 (North Atlantic, lat. 58° 5' N., long., 1° 01' E.).
- Larus rufescens* BONAPARTE, Naumannia, 1854, 211 (Red Sea).
- [*Chupeilarus*] *fuscens* (not *Dominicanus fuscens* Bruch, 1853) BONAPARTE, Consp. Av., ii, 1857, 221.
- Larus leucophaeus* (not of Lichtenstein) HEUGLIN, Ibis, 1859, 349 (Somali coast and Gulf of Aden); in Petermann's Mitth., 1861, 29 (Red Sea).
- Larus*, sp.? HEUGLIN, Ibis, 1872, 65 (Novaya Zemlya; Waigats).
- Larus occidentalis* (not of Audubon) HUME, Stray Feath., 1873, 273 (n. w. coast India); 1876, 414 (Bombay).
- Larus marinus* (not of Linnæus) ALSTON and HARVIE-BROWN, Ibis, 1873, 52 (lower Dwina River).
- Larus borealis* (not of Bruch, ex Brandt, 1853) SEEBOHM, Ibis, 1882, 386 (Archangel, Russia; Solovetsk Island, breeding; habits).

LARUS OCCIDENTALIS Audubon.

WESTERN GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform neutral gray to deep neutral gray, the secondaries, tertials, and proximal primaries broadly (for 25 mm. or more) tipped with white; four outer primaries with outer webs black, becoming more grayish basally (especially the fourth), the outermost one with its terminal portion, for about 50 mm., abruptly white, crossed, on one or both webs, by a subterminal black bar; second to fifth primaries (from outside) tipped with white, the fifth with much more of neutral gray than black on outer web; sixth primary with the black reduced to a subterminal bar; bill deep yellow, the mandible with a subterminal lateral spot of red; iris brown; bare orbital ring vermilion red; legs and feet yellow (in life).

Adults in winter.—Similar to summer adults, but pileum and hind-neck streaked with dusky.

Young.—Upper parts grayish brown or deep brownish gray, irregularly spotted or marbled with grayish white, the remiges, primary coverts, and rectrices uniform dull black or dark grayish brown, narrowly tipped with white; under parts grayish brown or brownish gray, nearly uniform on breast and abdomen, elsewhere more or less clouded or irregularly spotted with grayish white; bill blackish terminally, flesh color or pale brownish basally; iris brown; legs and feet flesh color (pale brownish in dried skins).

Downy young.—General color pale dull vinaceous-buff or brownish buff, slightly more grayish on back, rump, flanks, etc.; head with numerous large, well-defined but irregular black spots, of which the largest is on the occiput, or on median portion of forehead, at base of culmen, one on middle of crown, and one near base of mandible; forearm, back, and rump with large, distinct, and for the most part sharply defined, irregular black spots or marblings.^a

Adult male.—Wing, 397–447 (423.7); tail, 150–177 (164.1); exposed culmen, 52–59 (57); tarsus, 63–68 (65.9); middle toe, 60.5–65.5 (62.2).^b

Adult female.—Wing, 368–433 (400.6); tail, 146.5–167.5 (156.9); exposed culmen, 51–58 (53.8); tarsus, 58–66 (61); middle toe, 55.5–63 (58.6).^c

Pacific coast of North America, from western Mexico to British Columbia; breeding from Lower California (coast near Carmen

^a In general appearance the downy young of *Larus occidentalis* is not very unlike that of *Chroicocephalus atricilla*, but the pattern of the head markings is very different.

^b Six specimens.

^c Ten specimens.

Island; San Pedro Martir Island; Los Coronados Islands) northward to British Columbia (Similkameen Valley); migrating southward to Isabella and Tres Marias islands, Tepic, casually to Socorro Island, Revillagigedo group (specimen found dead May 3, 1897), northward to Vancouver Island; accidental in Colorado (Loveland, Sept. 30, 1889).

Larus occidentalis AUDUBON, Orn. Biog., v, 1839, 320 (Cape Disappointment, Washington); Synopsis, 1839, 328; Birds Am., 8vo ed., vii, 1844, 161.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 845.—BAIRD, Cat. N. Am. Birds, 1859, no. 662.—CASSIN, Orn. U. S. Expl. Exped. (Wilkes), 1858, 247 (California).—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv., 1859, 73 (coast California; habits).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 271 (Shoalwater Bay, Straits of Fuca, etc., Washington; Lower California; habits).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 296 (monogr.); Ibis, 1866, 271 (San Pedro, California); Check List, 2d ed., 1882, no. 774.—SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 15.—ELLIOT, New and Unfig. N. Am. Birds, pt. 7, 1867 (vol. ii), pl. 52, upper fig., and text.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 664.—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 172 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 257.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 545 (Cape district, Lower California).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 230.—HENSHAW, Auk, ii, 1885, 232 (California coast).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 49; 3d ed., 1910, p. 38.—BLAKE, Auk, iv, 1887, 329 (Santa Cruz Island, California, breeding).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., i, 1888, 37 (Farallon Islands, breeding; habits; descr. nest and eggs).—GOSS, Auk, v, 1888, 240 (San Pedro Martir Island, Lower California, breeding).—JEFFRIES, Auk, vi, 1889, 222, in text (Santa Barbara, California).—LAWRENCE (R. H.), Auk, ix, 1892, 41 (Grays Harbor, Washington, winter resident).—GRINNELL (J.) Pub. 1, Pasadena Acad. Sci., 1897, 23 (Santa Barbara Islands, breeding); Pacific Coast Avif., no. 11, 1915, 21 (breeding on Farallons, Santa Barbara Islands, etc.).—COOKE, Birds Col., 1897, 50 (Loveland, Colorado, 1 spec., Sept. 30, 1889); Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 34, figs. 15, 16 (range and migrations).—ANTHONY, Auk, xv, 1898, 315 (Socorro Island, 1 spec., May 3, 1897).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 20 (La Paz Bay, etc., Lower California, in winter; breeding on rocky islet near Carmen Island).—GRINNELL and DAGGETT, Auk, xx, 1903, 30 (Los Coronados Islands, Lower California, breeding).—RAY, Auk, xxi, 1904, 434, pl. 26 (Farallon Islands; habits, etc.).—KERMODE, Provincial Mus. Victoria, 1909, 24 (coast Brit. Columbia, resident; Chilliwack; breeding in Similkameen Valley).

L[arus] occidentalis GRAY, Gen. Birds, iii, 1846, 654.—BLASIUS, Journ. für Orn., 1865, 379 (crit.).—COUES, Key N. Am. Birds, 2d ed., 1884, 744.—RIDGWAY, Man. N. Am. Birds, 1887, 28.

[*Larus occidentalis* SHARPE, Hand-list, i, 1899, 141.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.

[*Larus (Glaucus)* *occidentalis* BRUCH, Journ. für Orn., 1853, 101.

[*Larus (Laroides)* *occidentalis* BRUCH, Journ. für Orn., 1855, 282.—BOUCARD, Liste Ois. récol. Guat., 1878, 18.

[*Laroides*] *occidentalis* BONAPARTE, Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 219.

[*Larus argentatus*.] Var. *occidentalis* COUES, Key N. Am. Birds, 1872, 312 (excl. syn. *borealis* Brandt and *cachinnans* Pallas); Birds Northwest, 1874, 633 (monogr.).

Larus argentatus . . . var. *occidentalis* COUES, Check List, 1873, no. 547b.

[*Larus argentatus*] c. *occidentalis* COUES, Birds Northwest, 1874, 626 (synonymy).

Larus argentatus occidentalis COUES, Bull. U. S. Nat. Mus., no. 7, 1877, 25 (Lower California).

Larus argentatus var. *occidentalis* HENSHAW, Rep. Orn. Spec. Expl. W. 100th Merid., 1876, 276 (Santa Cruz Island, breeding; San Francisco Harbor).

Larus fuscus (not of Linnæus) SAUNDERS, Proc. Zool. Soc. Lond., 1875, 158 (Magdalena Bay, Lower California; crit.).

LARUS ARGENTATUS Pontoppidan.

HERRING GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform pale gray (between pale and pallid neutral gray), the tertials, secondaries, and proximal primaries tipped with white (the white about 25.5 mm. in extent on secondaries and not sharply defined); outermost primary with outer web black, becoming grayish basally, abruptly tipped with white, this rarely interrupted or broken by a more or less distinct subterminal black bar; second primary (from outside) abruptly tipped with white, the subterminal portion black; third, fourth, and fifth primaries similar, but the basal half or more pale gray (like "mantle"), this increasing in extent to the fifth and extending farther on inner web than on outer, the "wedge" thus formed abruptly defined against the subterminal black; sixth primary pale gray, broadly tipped with white, and crossed by a broad subterminal space of black, widest on outer web; seventh primary similar, but the black more restricted and confined to outer web; remaining primaries broadly tipped with white but without any black; bill yellow, the mandible with a subterminal lateral spot of red; iris silvery white to pale yellow; bare orbital ring yellow (in life); legs and feet flesh color (in life).

Adults in winter.—Similar to summer adults, but head and neck (except throat and foreneck) streaked with dusky grayish brown.

Young.—Predominant color grayish brown, nearly uniform on under parts of body, the head and neck streaked with whitish, the upper parts variegated by an irregular spotting of pale grayish buffy, many of the feathers margined with the same; primary coverts, primaries, and rectrices very dark grayish brown or dusky, narrowly tipped with whitish, the two or three outer rectrices (on each side) more or less mottled basally with whitish; bill pale flesh color or fleshy white basally, blackish terminally, sometimes (in younger birds) mostly blackish; iris brown; legs and feet pale flesh color.

Downy young.—Dull buffy grayish white, the under parts (except throat) immaculate; head marked with irregular spots of black, irregularly distributed; back, wings, and rump clouded with dusky grayish; bill black, tipped with yellowish; legs and feet brownish (in dried skins).

Adult male.—Wing, 401–419 (410); tail, 162.5–168 (165.2); exposed culmen, 52.5–56 (54.2); tarsus, 60–62 (61); middle toe, 57.5–59.5 (58.5).^a

Adult female.—Wing, 401–417 (407.5); tail, 159–166 (161.4); exposed culmen, 45.5–51.5 (48.4); tarsus, 54–59 (56); middle toe, 49–53 (51.2).^b

^a Two specimens.

^b Five specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from England.....	401	162.5	56	60	57.5
One adult male from France.....	419	168	52.5	62	59.5
Six adult males from North America (<i>L. a. smithsonianus</i>).....	452	177.1	60	66.1	59.7
FEMALES.					
Three adult females from England (2) and Scotland (1).....	404.7	163	47.7	56	51
One adult female from Germany.....	408	159	51.5	56	52
One adult female from Cumberland Gulf.....	417	159	48	.....	.....
Four adult females from North America (<i>L. a. smithsonianus</i>).....	426	173.5	55.2	60.5	55.5

In view of the paucity of material examined, I follow the decision of the A. O. U. Committee in uniting the North American and European birds of this species. Nevertheless, the differences in size and coloration in the series examined are so marked that I cannot help believing that careful and unbiased examination of adequate material will show that they are separable as subspecies. The series examined by me plainly shows the following difference between the North American and European birds (see "Key" on p. 582):—

- ♂. Smaller (wing 401–419, averaging 410 in male, 405.5 in female; culmen 45.5–56, averaging 54.2 in male, 48.6 in female; tarsus 54–62, averaging 61 in male, 56 in female; outermost primary with terminal white area usually without interruption by a subterminal black bar, the latter if present very small and rarely continuous. (Northern Europe, southward in winter to Mediterranean, Black, and Caspian seas; occasional in northeastern North America.).....*Larus argentatus argentatus*.
- ♀. Larger (wing 417–465, averaging 452 in male, 424.2 in female; culmen 48–63, averaging 60 in male, 53.8 in female; tarsus 58–68, averaging 66.1 in male, 60.5 in female; outermost primary with white on terminal portion usually divided into two separate areas by a subterminal spot or bar of black, this rarely less than 12.5 mm. wide, often extending to extreme tip, then reducing the white to a subterminal spot. (Northern North America, southward in winter to Bahamas, Cuba, Yucatan, western Mexico, etc.).....*Larus argentatus smithsonianus*.

The European birds are probably divisible into two forms.

Breeding from Maine (coast from Penobscot Bay eastward; near Houlton), Nova Scotia, New York (near Wilmer; Adirondack region; Hamilton County; Herkimer County; Four Brothers, Lake Champlain), southern Ontario, islands in Lake Huron north of lat. 44° N. (Little Charity Island, Saginaw Bay; etc.), Lake Michigan (The Sisters and Strawberry Island, Green Bay; Grand Island), Minnesota (Mille Lacs; near Grand Marais), Manitoba (Shoal Lake; Lake Winnipeg; etc.) and British Columbia (Sabine Lake) northward to Alaska Peninsula (Stepovak Bay), central Alaska (near Mount McKinley; middle Yukon Valley), northern Mackenzie (Arctic coast), Melville Island, Wellington Channel, King Oscar Land, and Cumberland Sound (lat. 67° N.); breeding in Europe and western Siberia from Iceland to northern Russia (White Sea) and southward to British Islands and northern France; migrating southward, more or less regularly, as far as Bermudas, Bahamas, Cuba (Cardenas; Matanzas), Florida (Gulf coast and Lake Okeechobee), coast of Texas (Corpus Christi; Fort Brown), Yucatan (off Progreso, March 22), Lower California (mouth of Colorado River; Cerros Island) and Tepic, western Mexico (Isabella Island; Tres Marias Islands), European migrants passing southward to Canary Islands, Madeira, and Mediterranean and Caspian seas.

Larus argentatus PONTOPPIDAN, Danske Atlas, i, 1763, 622 (Denmark).—BRÜNNICH, Orn. Bor., 1764, 44 (Christiansoe).—BONNATERRE, Tabl. Enc. Méth., i, 1790, 83.—LEACH Syst. Cat. Mam., etc., Brit. Mus., 1816, 40.—TEMMINCK, Man. d'Orn., 2d ed., ii, 1820, 764; pt. 4, 1840, 470.—SABINE (E.), Parry's First Voy., 1821, App., p. cciv (North Georgian Islands).—BOIE, Isis, 1822, 562, 875.—MEYER, Taschenb., Zusät., iii, 1822, 195.—BREHM, Beitr. Vogelk., iii, 1822, 770; Lehrb., 1824, 710.—SABINE (J.), Franklin's Jour., 1823, App., 695 (Hudson Bay).—RICHARDSON, Parry's Second Voy., 1825, Suppl., 358 (Winter Island, n. of Melville Peninsula).—STEPHENS, in Shaw's Gen. Zool., xiii, pt. 1, 1828, 191.—ROSS, Parry's Third Voy., Suppl., 1826, 104.—WERNER, Atlas, Palmipèdes, 1828, pl. 16.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 360; Geog. and Comp. List, 1838, 63.—VIEILLOT, Faun. Franç., Ois., 1828, 393.—FLEMING, Brit. Anim., 1828, 140.—KAUP, Natürl. Syst., 1829, 58.—EYTON, Cat. Brit. Birds, 1836, 53.—SELBY, Brit. Birds, ii, 1833, 501, pls. 96, 96*.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 304.—JENYNS, Man. Brit. Vertébr., 1835, 276.—AUDUBON, Orn., Biog., iii, 1835, 588, pl. 291; v, 1839, 638; Synopsis, 1839, 328; Birds Am., 8vo ed., vii, 1844, 163, pl. 448.—GOULD, Birds Europe, v, 1837, pl. 434 and text; Birds Great Brit., v, 1873, pl. 59 and text.—VIGORS, Zool. Voy. 'Blossom,' 1839, 39.—NAUMANN, Vög. Deutschl., x, 1840, 379, pl. 266.—SCHINZ, Eur. Faun., 1840, 379.—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 246; Brit. Birds, v, 1852, 544.—SELYS-LONGCHAMPS, Faune Belge, 1842, 154.—SCHLEGEL, Rev. Crit., 1844, p. cxxiv, Vog. Nederl., 1854, 598, pls. 347, 348; Dier. Nederl. Vogels, 1861, 236; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 16, part.—GIRAUD, Birds Long Is., 1844, 169.—DEKAY, Zool. New York, ii, 1844, 306, pl. 122, fig. 270, pl. 129, fig. 284, pl. 130, fig. 286.—GRAY, List Birds Brit. Mus., Anseres, 1844, 169; Cat. Brit. Birds, 1863, 232.—YARBELL, Brit. Birds, 2d ed., iii, 1845, 588.—HEWITSON, Eggs Brit. Birds, ii, 1846, 445, pl. 127.—JARDINE, Contr. Orn., 1849, 86 (Bermuda, in winter).—DEGLAND, Orn., Eur., ii, 1849, 306.—HURDIS, in Jardine's Contr.

Orn., 1850, 13 (Bermudas, Feb., March).—THOMPSON, Birds Ireland, iii, 1851, 356.—KJÆRBØLLING, Danm. Fugle, 1852, 399, pl. 42; Suppl., pl. 23, figs. 1, 2.—REINHARDT, Journ. für Orn., 1854, 435 (Greenland); Ibis, 1861, 17 (Godthaab, Greenland; crit.).—MEYER, Brit. Birds, vii, 1857, 153, pl. 309.—CABANIS, Journ. für Orn., 1857, 236 (Cuba).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 844; Ann. Lyc. N. Y., vii, 1861, 275 (Cuba crit.).—BAIRD, Cat. N. Am. Birds, 1859, no. 661.—BLAND, An. Rep. Smithsonian Inst., 1859, 289 (Bermudas).—BARTLETT, Proc. Zool. Soc. Lond., 1859, 467 (return of birds to zoological gardens).—BLAKISTON, Ibis, 1861, 10 (Hudson Bay).—COVES, Proc. Ac. Nat. Sci. Phila., 1861, 245 (coast Labrador, breeding, habits, etc.); Check List, 1873, no. 547; 2d ed., 1882, no. 772.—SUNDEVALL, Svensk. Fogl., 1863?, pl. 50, figs. 1-3.—BLASIUS, Journ. für Orn., 1865, 380, part.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 417.—HOLTZ, Journ. für Orn., 1868, 124 (Gotland, breeding).—DROSTE, Journ. für Orn., 1869, 385 (Faroe Islands).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 305 (upper Yukon River, Alaska; Plover Bay, Siberia?).—FRITZSCH, Vög. Eur., 1870, 474, pl. 54, fig. 12.—SAUNDERS, Ibis, 1871, 400 (Straits Gibraltar, winter); 1894, 300 (crit.); Proc. Zool. Soc. Lond., 1878, 167 (monogr.); Journ. Linn. Soc., xiv, 1878, 395 (range); ed. Yarrell's Brit. Birds, iii, 1884, 618; Man. Brit. Birds, 1889, 657; Cat. Birds Brit. Mus., xxv, 1896, 260, 458.—GRAY (R.), Birds West Scotl., 1871, 487.—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 576 (monogr.).—HARTING, Handb. Brit. Birds, 1872, 77.—GODMAN, Ibis, 1872, 222 (Canary Islands; Madeira).—PALMÉN, Finlands Fogl., 1873, 591.—DRESSER, Birds Eur., viii, 1873, 399, pl. 602, fig. 2.—COLLETT, Forh. Selsk. Chr., 1873, 292 (n. Norway).—ALSTON and HARVE-BROWN, Ibis, 1873, 52 (Archangel, n. Russia).—DURNFORD, Ibis, 1874, 402 (North Friesian Islands, breeding).—NEWTON, Arctic Man., 1875, 106.—IRBY, Orn. Straits Gibr., 1875, 214; 2d ed., 1895, 300; Ibis, 1883, 189 (Santander, Spain, Nov., abundant).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 64 (Galveston, Texas).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 99 (Cumberland Sound, up to lat. 67° N., breeding).—FEILDEN, Zoologist, 1879, 7 (Prince Albert Land).—RODD, Birds Cornwall, 1880, 172.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 666.—ROBERTS, 8th An. Rep. Geol. and N. H. Surv. Minn., 1880, 165 (breeding near Grand Marais, Minnesota).—HARTLAUB, Journ. für Orn., 1883, 284 (Alaska).—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 397 (Anticosti Island, etc., breeding; habits).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1884, 188.—TRISTRAM, Fauna and Flora Palestine, 1884, 137 (Tyre, in winter).—REID, Bull. U. S. Nat. Mus., no. 25, 1884, 266 (Bermudas, frequent).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 255.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 326.—LÜTKEN, Ornith., 1885, 145 (Denmark).—TORRE and TSCHUSI, Ornith., 1885, 560 (Austria-Hungary).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 51; 3d ed., 1910, p. 38.—HARVE-BROWN and BUCKLEY, Faun. Sutherl., etc., 1887, 232; Fauna Outer Hebrides, 1888, 146; Faun. Argyll, etc., 1892, 191.—TACZANOWSKI, Ornith., 1888, 507 (Poland).—CORY, Auk, v, 1888, 75 (Bahamas and Cuba in winter); Birds West Ind., 1889, 276; Birds Bahama Is., 2d ed., 1890, 239; Cat. West Ind. Birds, 82, 135 (Bahamas; Cuba).—RADDE and WALTER, Ornith., 1889, 125 (Krasnovodsk, in winter).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 63.—CLARKE (W. E.), Zoologist, 1890, 50 (Jan Mayen Land).—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 339.—BUCKLEY and HARVE-BROWN, Faun. Orkney Is., 1891, 232.—GÄTKE, Vogelw. Helgoland, 1891, 570.—BORRER, Birds Sussex, 1891, 267.—D'URBAN and MATHEWS, Birds

- Devon, 1892, 375.—LILFORD, Col. Figs. Brit. Birds, 1893, pt. xxiii.—BLAGG, Ibis, 1893, 357 (Shetland Islands, breeding).—PEARSON and BIDWELL, Ibis, 1894, 236 (Storr Tamsø, n. Norway, breeding).—KNIGHT, Auk, xvii, 1900, 63 (crit.).—GRINNELL (J.), Pacific Coast Avif., no. 3, 1902, 12 (California range); no. 11, 1915, 21 (winter visitor along whole coast California).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 423 (off Progreso, Yucatan; Isabella Island, Tepic; Tres Marias; West Indies).—WARD (H. L.), Bull. Wisc. N. H. Soc., iv, 1896, 113-133, pls. 1, 2 (Grand Island, Wisconsin, breeding; nesting habits, etc.).—WOOD (N. A.), 14th Rep. Mich. Ac. Sci., 1912, 180 (Charity Island, Michigan, breeding).—STRONG, Auk, xxxi, 1914, 178-199, pls. 19, 20 (habits, etc.); An. Rep. Smithsonian Inst. for 1914 (1915), 479-509, pls. 1-10 (habits, etc.).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 36, figs. 18, 19 (range and migrations).—GIANINI, Auk, xxxiv, 1917, 397 (Stepovak Bay, Alaska Peninsula, breeding).
- [*Larus argentatus* GMELIN, Syst. Nat., i, pt. ii, 1789, 600.—REINHARDT, Journ. für Orn., 1854, 443 (Greenland).—GUNDLACH, Journ. für Orn., 1861, 348 (Cuba).—GRAY, Hand-list, iii, 1871, 113.—COUES, Key N. Am. Birds, 1872, 312.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.—CORY, List Birds West Ind., revised ed., 1886, 33 (Bahamas; Cuba).—SHARPE, Hand-list, i, 1889, 141.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.
- [*Larus argentatus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 244.—GRAY, Gen. Birds, iii, 1846, 654.—MARTENS, Journ. für Orn., 1859, 222 (Bermudas).—BLASIUS, Journ. für Orn., 1865, 380 (crit.).—COUES, Key N. Am. Birds, 2d ed., 1884, 743.—RIDGWAY, Man. N. Am. Birds, 1887, 30.
- [*Larus argentatus*] a. *argentatus* COUES, Birds Northwest, 1874, 625 (synonymy).
- [*Larus argentatus* var. *argentatus* NELSON, Bull. Essex Inst., viii, 1876, 145 (Chicago Harbor, March 27, 1876).
- Larus argentatus* var. *argentatus* NELSON, Bull. Nutt. Orn. Club, i, 1876, 41 (Chicago Harbor, March 27, 1876).
- Larus argentatus argentatus* HANTZSCH, Journ. für Orn., 1908, 327, in text.
- Laroides argentatus* BHEHM, Isis, 1830, 993; Vög. Deutschl., 1831, 740; Naumannia, 1855, 294.—GRAY, List Gen. Birds, 1840, 78; 2d ed., 1841, 99.—OLPER-GALLIARD, Orn. Eur. Occid., fasc. x, 1886, 55.
- [*Larus* (*Laroides*)] *argentatus* BRUCH, Journ. für Orn., 1855, 282 (monogr.).
- [*Laroides*] *argentatus* BONAPARTE, Comp. Rend., xlii, 1856, 770; Conspect. Av., ii, 1857, 218.
- [*Larus* (*Glaucus*)] *argentatus* BRUCH, Journ. für Orn., 1853, 101.
- Larus* (*Laroides*) *argentatus* DROSTE, Vogelw. Borkum, 1869, 346.
- [*Elnakia*] *argentata* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 358.
- [*Larus*] *varius* BRÜNNICH, Orn. Bor., 1764, 45 (Iceland and Christiansoe; = young).
- Larus fuscus* (not of LINNÆUS) PENNANT, Brit. Zool., 2d ed., ii, 1788, 131.—BONNATERRE, Tabl. Enc. Méth., i, 1790, 82.—BECHSTEIN, Naturg. Deutschl., ii, 1791, 818.—MONTAGU, Orn. Dict., i, 1802.—YARRELL, Brit. Birds, iii, 1843, 468.
- [*Larus marinus*] β LATHAM, Index Orn., ii, 1790, 814 (cites *Larus argentatus* Brünnich).
- Larus glaucus* (not of Brünnich) RETZIUS, Fauna Suecica, i, 1800 156.—MEYER and WOLF, Taschenb., ii, 1810, 471.—BENICKEN, N. Ann. Wetterau. Ges., iii, 1812, 138.—MEISNER and SCHINZ, Vög. Schweiz, 1815, 268.—TEMMINCK, Man. d'Orn., 1815, 493.—KOCH, Syst. baier. Zool., 1816, 372.—NILSSON, Orn. Suecica, 1817, 167.
- Larus cinereus* (not of Scopoli, 1769) BODDAERT, Tabl. Pl. Enl., 1783, 15 (based on *Le Gouland cendré* Daubenton, Pl. Enl., pl. 253).—LEACH, Syst. Cat. Man. etc., Brit. Mus., 1816, 40.

- Larus argentus* BOIE, Isis, 1822, 562.—BREHM, Beitr. Vogelk., iii, 1822, 781; Lehrb., 1824, 712.—MACGILLIVRAY, Mem. Wern. Soc., v, 1824, 264.
- [*Larus*] *argentus* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 99.
- Laroides argenteus* BREHM, Isis, 1830, 993; Vög. Deutschl., 1831, 741; Naumannia, 1855, 294.
- Larus argentatoides* BREHM, Beitr. Vogelk., iii, 1822, 791, 799 (n. e. Germany and west coast of North America); Lehrb., 1824, 713.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 360.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 417 (Melville Peninsula, breeding).—THOMPSON, Proc. Zool. Soc. Lond., 1835, 83 (Ireland).—SCHINZ, Europ. Fauna, i, 1840, 380 (North America).—MEYER, Illustr. Brit. Birds, iv, 1843, pl. (not numbered).—FEILDEN, Zoologist, 1879, 7 (Prince Albert Land).
- [*Larus*] *argentatoides* GRAY, Hand-list, iii, 1871, 113, no. 10972.
- Laroides argentatoides* BREHM, Isis, 1830, 993; Vög. Deutschl., 1831, 742; Naumannia, 1855, 294.
- [*Larus* (*Laroides*)] *argentatoides* BRUCH, Journ. für Orn., 1855, 282 (monogr.).—BONAPARTE, Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 218 (North America).
- [*Larus* (*Glaucus*)] *argentatoides* BRUCH, Journ. für Orn., 1853, 101 (North America).
- Laroides argentaceus* BREHM, Isis, 1830, 993; Vög. Deutschl., 1831, 742; Naumannia, 1855, 294; Vogelf., 1855, 349.—OLPHE-GALLIARD, Orn. Eur. Occid., fasc. x, 1886, 60.
- [*Laroides*] *argentaceus* BONAPARTE, Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 218 (n. France).
- [*Laroides*] *major* BREHM, Isis, 1830, 993 (*nomen nudum*).
- Laroides major* BREHM, Vög. Deutschl., 1831, 738 (n. e. Germany and the Danish coast); Vogelf., 1855, 339; Naumannia, 1855, 294.
- [*Laroides*] *americanus* BREHM, Isis, 1830, 993 (*nomen nudum*).
- Laroides americanus* BREHM, Vög. Deutschl., 1831, 743.
- Laroid[es] americanus* BREHM, Naumannia, 1855, 294.
- Larus marinus* (not of Linnæus) LEMBEYE, Aves de la Isla de Cuba, 1850, 122 (see Gundlach, Journ. für Orn., 1871, 291).—CABANIS, Journ. für Orn., 1857, 236 (see Lawrence, Ann. Lyc. N. Y., vii, 275).
- Larus smithsonianus* COUES, Proc. Ac. Nat. Sci. Phila., xiv, 1862, 296 (eastern and western coasts of North America; no type locality designated).—GUNDLACH, Journ. für Orn., 1871, 294 (Cuba); 1875, 387 (Cuba); Orn. Cubana, 1876, 308.
- [*Larus*] *smithsonianus* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—SHARPE, Hand-list, i, 1899, 141.
- Larus argentatus* . . . var. *smithsonianus* COUES, Check List, 1873, no. 547a.
- [*Larus argentatus*] b. *smithsonianus* COUES, Birds Northwest, 1874, 625 (synonymy).
- [*Larus argentatus*.] Var. *smithsonianus* COUES, Birds Northwest, 1874, 626 (descr., etc.).
- [*Larus*] *argentatus* var. *smithsonianus* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).
- Larus argentatus smithsonianus* RIDGWAY, Proc. U. S. Nat. Mus., iii, Aug. 24, 1880, 207; Nom. N. Am. Birds, 1881, no. 666a.—MERRIAM, Bull. Nutt. Orn. Club, vi, 1881, 235 (Adirondack region, New York, resident, breeding).—BATCHELDER, Bull. Nutt. Orn. Club, vii, 1882, 152 (Houlton, Maine, breeding).—COUES, Check List, 2d ed., 1882, no. 773.—HENSHAW, Auk, ii, 1885, 232 (Santa Barbara to San Diego, California, abundant, Nov., Dec.).—TURNER, Proc. U. S. Nat. Mus., 1885, 252 (Hudson Strait, breeding).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 51a.—RALPH

- and BAGG. Trans. Oneida Hist. Soc., iii, 1886, 104 (Herkimer and Hamilton counties, New York, breeding).—EVERMANN, Auk, iii, 1886, 88 (Ventura Co., California).—SETON, Auk, iii, 1886, 147 (Lake Winnipeg. etc., w. Manitoba, breeding).—NELSON, Rep. N. H. Coll. Alaska, 1887, 54 (upper Yukon River).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 251 (Cerro Island, Lower California).—SCOTT, Auk, vii, 1890, 306 (Dry Tortugas, Florida, March).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 468 (Manitoba).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 418 (Mackenzie, breeding along Arctic coast).—CORY, Cat. West Ind. Birds, 1892, 82, 135 (New Providence Island, Bahamas; Cuba).—MACKAY, Auk, ix, 1892, 221-228 (habits in New England).—RHODES, Auk, x, 1893, 71 (coast of Washington and Brit. Columbia).—ALLEN, Auk, x, 1893, 125 (range).—GRINNELL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 6 (coast Los Angeles Co., California, winter; Santa Catalina Island, Dec.).—NELSON, North Am. Fauna, no. 14, 1899, 23 (San Juanita Island, Tres Marias, May 22).—HANTZSCH, Journ. für Orn., 1908, 327 (Labrador).—WOOD and GAIGE, Pub. 4, Mich. Geol. and Biol. Surv., 1911, 276 (breeding in Michigan n. of lat. 44° N.).
- L[arus] argentatus smithsonianus* RIDGWAY, Man. N. Am. Birds, 1887, 31.
- L[arus] a[rgentatus] smithsonianus* COUES, Key N. Am. Birds, 2d ed., 1884, 743.
- [?] *Larus occidentalis* (not of Audubon) JARDINE, Contr. Orn., 1849, 86 (Bermudas: 3 specs.).—HURDIS, Jardine's Contr. Orn., 1850, 13 (Bermudas. in winter).—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 289 (Bermudas).
- L[arus] occidentalis* MARTENS, Journ. für Orn., 1859, 222 (Bermudas).

LARUS VEGÆ (Palmén).

VEGA GULL.

Similar to *L. argentatus*, but color of back, etc., decidedly darker.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform light neutral gray (about the same shade as in *L. californicus*), the tertials, secondaries, and proximal primaries passing terminally into white (this about 31-32 mm. wide on secondaries, where rather abruptly defined); outermost primary black, the terminal portion, for about 57 mm., abruptly white, this white area usually interrupted by a subterminal spot or bar of black (appearing terminal when the white at apex is worn off); second primary (from outside) black, abruptly tipped with white, the inner web with a large oval or rounded spot of white preceding the subterminal black; third primary similar but becoming gray basally, only the tip white, the gray on inner web paler than that on outer web and becoming still paler distally, where sharply defined against the subterminal black area and reaching to within about 63.5-70 mm. of tip of the quill; fourth primary similar, but the black more restricted, the gray "wedge" on inner web becoming decidedly white distally; fifth primary similar, but with the black still more restricted, and gray of outer web lighter; sixth primary gray (like back, etc.), passing into white terminally and crossed near tip by a band or broad bar of black; seventh primary similar to sixth.

but with the subterminal black band incomplete, sometimes obsolete or nearly so; remaining (proximal) primaries without any black; bill yellow, the mandible with a subterminal lateral spot of red; legs and feet pale flesh color (in life).

Adults in winter.—Similar to summer adults, but pileum and hind-neck broadly streaked or longitudinally clouded with brownish gray or grayish brown.

Adult male.—Wing, 471; tail, 195; exposed culmen, 64; tarsus, 62.5; middle toe, 62.5.^a

Adult female.—Wing, 435; tail, 159; exposed culmen, 55; tarsus, 62; middle toe, 55.^b

Arctic coast of Siberia, from Taimyr Peninsula eastward to Bering Straits, breeding at Kolyma delta, on New Siberian Islands, Cape Kibora Island, Cape Bolshaja, etc.; during migration eastward to Bering Sea, coast of Alaska (Choris Peninsula; Kotzebue Sound; St. Michaels; Ulaga Pass, near Unalaska), and southward along Asiatic coast to Kamchatka (Avacha Bay), Korea, Japan (Tsushima Island; Sakhalin Island, June; Hakodate), China (lower Yangtse River; Kiu-Kiang; Foochow; Pakhoi; Amoy; Chefoo), and Bonin Islands; also to coast of California (Ventura County)?

Larus argentatus (not of Pontoppidan) MIDDENDORFF, Reis. Sibir., Zool., 1851, 242, part.—KITTLITZ, Denkw., i, 1858, 336; ii, 1858, 201, 225.—SWINHOE, Ibis, 1861, 345 (n. China).—RADDE, Reis. Sibir., Vög., 1863, 383.—BUNGE, Mém. Biol., xii, 1884, 47 (Lena delta, Siberia).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 226 (Novo Marinsk, n. e. Siberia).

Larus argentatus var. *cachinnans* (not *Larus cachinnans* Pallas) SCHRENCK, Reis. Amurl., i, 1859, 504.

Larus cachinnans HOMER, Journ. für Orn., 1870, 436 (e. Siberia).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 169, part.—DAVID and OUSTALET, Ois. Chine, 1878, 519.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 667.—COUES, Check List, 2d ed., 1882, no. 775.—NELSON, Cruise 'Corwin' in 1881 (1883), 152 (Norton Sound, etc., Alaska; Plover Bay, Siberia); Rep. N. H. Coll. Alaska, 1887, 54 (Siberian coast, Bering Sea; Kotzebue Sound to mouth of Yukon River, Alaska).—SEEBOHM, Ibis, 1884, 270 (Kiu-Kiang, China); 1890, 105 (Bonin Islands); 1892, 96 (Tsushima Island, Japan); 1893, 53 (Liu Kiu Islands); Birds Japan. Emp., 1890, 291.—MURDOCH, Exped. Point Barrow, 1885, 200 (Plover Bay, Siberia).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 240.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, no. 52.—EVERMANN, Auk, iii, 1886, 88 (Ventura Co., California, in winter).—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 592 (Vladivostok, e. Siberia; Korea; crit.).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1888, 458 (Ginzan, Korea, Feb.).—STYAN, Ibis, 1891, 508 (lower Yangtse River, China).—DE LA TOUCHE, Ibis, 1892, 501 (Foochow, etc., China, in winter).—HARTLAUB, Abh. Nat. Ver. Bremen, xii, Heft ii, 1892, 334 (Pakhoi, China).

^a One specimen, from Kanagawa, Japan (Mar. 29).

^b One specimen from Formosa Channel, China.

Ten adults of undetermined sex measure as follows: Wing, 385–463 (424.3); tail five specimens), 164–179 (171); exposed culmen, 48.3–56 (52.3); tarsus, 54.6–63.5 (59.5); middle toe, 40.6–60 (52.1).

L[arus] cachinnans COUES, Key N. Am. Birds, 2d ed., 1884, 744.

Larus fuscus (not of Linnaeus) SWINHOE, Ibis, 1860, 68 (Amoy, China).

[?] [*Larus (Glaucus)*] *borealis* BRUCH, Journ. für Orn., 1853, 101 (n. Asia, ex Brandt, unpublished letterpress).

[?] [*Laroides*] *borealis* BONAPARTE, Naumannia, 1854, 212; Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 219 (Kamchatka).—BRUCH, Journ. für Orn., 1855, 282 (monogr.).

Larus borealis DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 305 (St. Michaels, Alaska; Plover Bay, e. Siberia).—BAIRD, Trans. Chicago Ac. Sci., i, 1869, 324 (St. Michaels; Plover Bay).—TACZANOWSKI, Journ. für Orn., 1873, 111 (e. Siberia); Bull. Soc. Zool. France, i, 1876, 263 (e. Siberia); vii, 1882, 397 (Kamchatka).

[*Larus*] *borealis* GRAY, Hand-list, iii, 1871, 113, no. 10976.

[*Larus argentatus*] d. *borealis* COUES, Birds Northwest, 1874, 626 (synonymy).

Larus occidentalis (not of Audubon) WHITELEY, Ibis, 1867, 210 (Hakodate, Japan; see Blakiston and Pryer, Ibis, 1878, 217, and Saunders, Ibis, 1879, 24).—HARTING, Proc. Zool. Soc. Lond., 1871, 110-123 (Choris Peninsula, Kotzebue Sound, Alaska).—SWINHOE, Ibis, 1875, 140 (Chefoo, China); Proc. Zool. Soc. Lond., 1871, 421 (China).—BLAKISTON and PRYER, Ibis, 1878, 217 (Hakodate, Japan).

Larus affinis (not *L. affinis* Reinhardt) NELSON, Cruise 'Corwin' in 1881 (1883), 107 (Cape Vankarem, Plover Bay, etc., e. Siberia).

Larus argentatus Brünn [ich] var. *vegæ* PALMÉN, Bidr. Sibir. Vogelf. 'Vega'-Exped. Vetensk., Bd. v, 1887, 370 (Pidlin, coast n. e. Siberia; synonymy on p. 378).—TACZANOWSKI, Mém. Acad. Petersb., xxxix, 1893, 1028 (coast e. Siberia).

L[arus] argentatus var. *vegæ* SAUNDERS, Bull. Brit. Orn. Club, no. xv, 1894, p. xxiv (crit.; geog. range).

Larus vegæ STEJNEGER, Auk, v, July, 1888, 310, in text (crit.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. to Check List, 1889, 20; Check List, 2d ed., 1895, no. 52; 3rd ed., 1910, p. 38.—SEEBOHM, Ibis, 1889, 349 (Great Liakoff Island, e. Siberia; crit.; descr. eggs).—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 269.—SCHALOW, Vögel der Arktis, 1904, 142 (synonymy, range, etc.).—DRESSER, Ibis, 1908, 514 (islands of New Siberia Archipelago, breeding).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 36 (Ulaqa Pass, near Unalaska Island, Aleutians; Avacha Bay, Kamchatka).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 10 (breeding on Arctic coast, e. Siberia); Auk, iii, 1916, 44 (Saghalin Island, June).—COOK, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 40, fig. 20 (range and migrations).—HERSEY, Smithsonian Misc. Coll., lxvi, no. 2, 1916, 14 (off Nome, Alaska).

L[arus] vegæ RIDGWAY, Man. N. Am. Birds, 2d ed., 1896, 30.

[*Larus*] *vegæ* SHARPE, Hand-list, i, 1899, 141.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.

Larus argentatus vegæ HARTERT, Ibis, 1904, 417 (Lena River, e. Siberia; crit.).

LARUS CALIFORNICUS Lawrence.

CALIFORNIA GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform gray (between pale and light neutral gray), the tertials,

secondaries, and proximal primaries passing into white terminally, the white tips to secondaries about 20.5 mm. wide); outermost primary black, abruptly tipped with white (for about 51 mm.), with or without a black subterminal bar or spot; second primary (from outside) black, abruptly tipped with white, usually with a second white spot or "mirror" within the distal portion of the black; third primary black, abruptly tipped with white, the black passing into gray basally; fourth primary gray (darker than back, etc.) for about basal half, then black, abruptly tipped with white; fifth primary similar to fourth but the black more restricted and more abruptly defined against the gray; sixth primary lighter gray (like back), passing into white terminally and crossed by a subterminal band of black; remaining (proximal) primaries neutral gray, like wing-coverts, etc., broadly but not sharply tipped with white; bill, yellow (greenish yellow to chrome) the subterminal third of mandible red (orange-red to carmine), with a more or less distinct spot of blackish within or immediately in front of the red, and one directly above it on the maxilla, the tip of which is sometimes grayish white; rictus and naked eye-ring vermilion red; iris dark brown; legs and feet pale grayish green.^a

Adults in winter.—Similar to summer adults, but pileum, sides of head, hindneck, and sides of neck broadly streaked with grayish brown.

Young.—Upper parts coarsely and irregularly spotted with grayish brown and grayish buffy white, in nearly equal amounts, the whitish on margins of the feathers and forming broad irregular bars, mostly on sub-basal portion of feathers; primary coverts, remiges, and rectrices blackish or dusky, the first narrowly tipped with white, the lateral rectrices with irregular broken bars of the same; head, neck, and under parts mottled or clouded with grayish brown or brownish gray and grayish white, the former predominating on head and neck, where nearly uniform on hindneck; bill dusky, black terminally, brownish basally; iris brown; legs and feet brownish (in dried skins).

Downy young.—General color grayish white, purer white and immaculate on central under parts; head with black or blackish markings (irregular spots) of indefinite or complicated arrangement, most numerous on upper portion; upper parts clouded with dusky gray.

Adult male.—Wing, 381–428 (407.1); tail, 140–163 (154.3); exposed culmen, 44.5–54.5 (49.8); depth of bill at gonydeal angle, 15–18.5 (17.1); tarsus, 51.5–63 (57.2); middle toe, 46–55 (51.2).^b

^a Fresh colors of breeding birds obtained by the author at Pyramid Lake, Nevada.

^b Eight specimens.

Adult female.—Wing, 317–402 (374.9); tail, 123.5–168 (144.7); exposed culmen, 42–52.5 (45.4); tarsus, 47–59.5 (52.1); middle toe, 45–52.5 (47.6).^a

Western North America, from southern Mexico to Mackenzie; breeding from eastern California (Mono Lake; Eagle Lake; Clear Lake), Nevada (islands in Pyramid Lake; Soda Lakes, Carson Desert), Utah (islands in Great Salt Lake; Utah Lake) and North Dakota (Stump Lake; Devils Lake), to Mackenzie (Fort Anderson; lower Anderson River; Great Slave Lake, from Fort Resolution to Fort Rae); migrating to Coast of California and southward as far as southern Mexico (Rio de Coahuylana and Manzanillo, Colima; San Mateo, Oaxaca, Feb.; Alvarado, Vera Cruz); also occurring as migrant (regular or casual) in western Oregon (Portland), British Columbia (coast as far northward as Cormorant Island; Esquimault; Vancouver Island; Hot Springs, Alton; Okanagan Lake), Kansas (Reno County, Oct. 20, 1880), Texas (Galveston; Laredo, Oct. 16, 1866), Colorado (Middle Park, 7,000 ft. alt., April 28, 1874; Denver, Oct. 26, 1878; Coventry, 1905; Loveland, May 7, 1890; Larimer County, April 18, 1894), and accidental in Hawaiian Islands.

Larus californicus LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vi, 1854, 79 (San Joaquin River, near Stockton, California; coll. G. N. Lawrence); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 846; Bull. U. S. Nat. Mus., no. 4, 1876, 51 (San Mateo, Oaxaca, Feb.).—BAIRD, Cat. N. Am. Birds, 1859, no. 663.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 273 (coast of Washington).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 300 (monogr.); Birds Northwest, 1874, 634 (monogr.); Check List, 2d ed., 1882, no. 777.—BLAKISTON,

^a Eight specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Depth of bill at gonyd- eal angle.	Tarsus.	Middle toe.
MALES.						
Three adult males from Mackenzie (June, July).....	422.7	161.5	53.8	17.7	60.3	54
Two adult males from western Nevada (May, July)...	396.5	151.5	49	17.2	56	50.5
One adult male from Utah (July).....	410	155	46.5	17	57	50
One adult male from Southern California (November)...	405	152	48	17	56	51
One adult male from State of Colima, western Mexico (October).....	381	140	44.5	15	51.5	46
FEMALES.						
One adult female from western Nevada (May 26).....	383	146.5	43	.....	49.5	46
Four adult females from coast of Washington (August, September).....	358.2	136.4	43.1	.....	50.2	46
Three adult females from coast of California (Novem- ber, December).....	394.3	155.3	49.2	.....	55.5	52.1

- Ibis, 1863, 152 (Mackenzie River).—ELLIOT, New and Unfig. N. Am. Birds, pt. 7, 1867 (vol. ii), pl. 52, lower fig., and text.—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 13 (Utah); Birds Hawaiian Is., 1902, 127 (1 spec., locality unknown).—RIDGWAY, Bull. Essex Inst., vii, 1875, 16 (Pyramid Lake, Nevada, breeding), 32 (Great Salt Lake, Utah, breeding); Orn. 40th Parallel, 1877, 637; Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 668.—BENDIRE, Proc. Bost. Soc. N. H., xix, 1877, 148 (Malheur Lake, e. Oregon, breeding).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 175 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 276 (Vancouver Island and Esquimaux, Brit. Columbia; Yellowstone Lake, Aug.; etc.).—BELDING, Proc. U. S. Nat. Mus., v, 1883, 549 (San Jose del Cabo, Lower California, May 17).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 242.—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 179 (Alvarado, Vera Cruz).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 53; 3rd ed., 1910, p. 39.—TOWNSEND, Proc. U. S. Nat. Mus., x, 1887, 191 (Eagle Lake, California, breeding).—COOKE, Bird Migr. Miss. Val., 1888, 56 (Reno Co., Kansas, 1 spec., Oct. 20, 1880); Bull. 56, Col. Agric. Exp. Sta., 1900, 192 (Middle Park, Colorado, 7,000 ft., April 24; Denver, Oct. 26); Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 41, fig. 21 (range and migrations).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 418 (lower Anderson River, Mackenzie, breeding).—RICHMOND and KNOWLTON, Auk, xi, 1894, 301 (Jefferson River, Montana, Sept.).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 20 (La Paz, etc., Lower California, in winter).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 425 (Valley of Mexico; Alvarado, Vera Cruz; San Mateo, Oaxaca).—SETON, Auk, xxv, 1908, 69 (Great Slave Lake, Mackenzie, abundant).—PREBLE, North Am. Fauna, no. 27, 1908, 267 (Great Slave Lake, breeding; Fort Resolution).—GRINNELL (J.), Pacific Coast Avif., no. 4, 1915, 22 (California; winter visitant to whole of State, breeding at Eagle Lake, Lassen Co.; occasional in summer from Lake Tahoe northward).
- [Larus] californicus* COUES, Key N. Am. Birds, 2d ed., 1884, 745.—RIDGWAY, Man. N. Am. Birds, 1887, 31.—BRYAN, Key Birds Hawaiian Group, 1901, 7 (Hawaiian Islands, accidental).
- [Larus] californicus* SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.
- [Laroides] californicus* BONAPARTE, Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 220.
- [Larus delawarensis.]* Var. *californicus* COUES, Key N. Am. Birds, 1872, 313.
- Larus delawarensis* . . . var. *californicus* COUES, Check List, 1873, no. 548a.
- L[arus] argentatus*, var. *californicus* RIDGWAY, Bull. Essex Inst., v, Nov., 1873, 173, 195, in text (Pyramid Lake, Nevada; Great Salt Lake, Utah); vii, 1875, 40 (Nevada).
- Larus delawarensis* (not of Ord) ALLEN (J. A.), Bull. Mus. Comp. Zool., iii, 1872, 173, 183 (Great Salt Lake, Utah, breeding).

LARUS DELAWARENSIS Ord.

RING-BILLED GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform pale gray (between pale neutral gray and no. 8 gray), the tertials, secondaries, and proximal primaries rather broadly, but not

abruptly, tipped with white; outermost primary black with a white subterminal area, about 38–45 mm. long, involving both webs, the shaft, however, black; second primary (from outside) similar but with the white subterminal area smaller, and extreme tip also white; third primary with basal half (approximately) pale gray and apical white spot larger; fourth primary similar but the subterminal black area more restricted, the line between it and the pale gray anterior portion more sharply defined; fifth pale gray passing terminally into white, but crossed near tip by a band of black about 19 mm. wide; sixth similar but with the subterminal black reduced to a more or less distinct spot; remaining (proximal) primaries pale gray passing into white terminally, without any black subterminal markings; bill greenish yellow with a subterminal band of black, the tip sometimes tinged with orange or orange-yellow; interior of mouth deep orange-red; rictus and naked orbital ring vermilion red; iris light yellow or cream-yellow; legs and feet light yellow, sometimes slightly tinged with greenish.

Adults in winter.—Similar to summer adults, but head and neck (except chin, throat, and foreneck) streaked with brownish gray.

Young.—Upper parts dusky grayish brown, the feathers margined with pale grayish buffy; primaries blackish, the proximal quills light gray basally and tipped with white; secondaries light gray for basal half (approximately), dusky or blackish distally, where edged with white; proximal two-thirds (approximately) of tail pale gray (more whitish basally) mottled with deeper brownish gray or grayish brown, the distal third dusky or blackish, narrowly tipped with white; under parts white, spotted or clouded laterally with grayish brown; bill blackish, the basal portion of mandible and of maxillary tomia paler (dull flesh color in life); iris brown; naked orbital ring bluish; legs and feet grayish (in life).

Downy young.—General color pale buffy grayish, paler (dull buffy whitish) on head, neck, and chest; head with numerous irregular blackish spots and streaks, of which the most distinct, and blackest, is a longitudinal spot or streak in center of forehead; back, rump, etc. more or less distinctly clouded or marbled with dusky; bill black, with terminal third or more dull yellowish.

Adult male.—Wing, 365–389 (378.1); tail, 143–161 (150.8); exposed culmen, 42–45.5 (44.3); tarsus, 54–61 (56.5); middle toe, 41.5–43.5 (42.5).^a

Adult female.—Wing, 334–372 (362.4); tail, 132–150 (141.8); exposed culmen, 37–41.5 (39.5); tarsus, 47–54 (50.9); middle toe, 37–42 (39.4).^a

Greater part of North America; breeding from southern Oregon (Lower Klamath Lake; Malheur Lake), Utah (Great Salt Lake)?, Idaho (Minidoka), Colorado (San Luis Lakes, 7,500 ft. alt.), North Dakota (Devils Lake; Stump Lake), Minnesota (Akron Lake), Wisconsin (islands in Green Bay, formerly; Lake Koshkonong, in 1860), northern Michigan (Neebish Islands; Gull Island, near Vaus Harbor, in 1892), southern Ontario (islands in Georgian Bay), Quebec (Hamilton Inlet; Cape Whittle; Little Mecattina; Rupert House), and southeastern Labrador northward to southern Ungava, central Keewatin (a little northward of Fort Churchill), southern Mackenzie (Great Slave Lake), westward to east-central Alberta (Buffalo Lake, near Red Deer) and southeastern British Columbia (Shuswap Lake); migrating southward, over whole of United States, as far as Cuba and Mexico (Tehuantepec, Oaxaca, February, March; Mazatlán and Presidio de Mazatlán, Sinaloa; Guaymas, Sonora, December; Santa Ana, near Guadalajara, Jalisco); accidental in Bermudas (Jan. 1, 1849) and Hawaiian Islands (Feb. 1, 1901).

Larus delawarensis ORD, in Guthrie's Geog., 2d Am. ed., ii, 1815, 319 (Delaware River, below Philadelphia).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 846; Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City); Mem. Bost. Soc. N. H., ii, 1874, 317 (Mazatlan, Sinaloa, in winter); Bull. U. S. Nat. Mus., no. 4, 1876, 51 (Tehuantepec, Oaxaca, Feb., March).—

^a Ten specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
One adult male from Nevada (November).....	384	151	45.5	56.5	43
One adult male from New Mexico (September).....	380	161	45.5	61	43.5
Three adult males from California (May, June, September)....	373.3	145.3	44.3	56.7	42.3
Four adult males from Sonora (March, April).....	378	154.2	44.2	55.9	42.5
One adult male from Jalisco (December).....	376	143	42	54	41.5
FEMALES.					
One adult female from District of Columbia (March).....	368	143	39	48.5	38
One adult female from Illinois (March).....	367	138	41.5	54	42
One adult female from Nebraska (April).....	369	143	39.5	52	41
Two adult females from Wyoming (July).....	357	141.5	38	49.2	39.7
One adult female from Nevada (December).....	366	146.5	41	50	37
One adult female from Oregon (June).....	372	132	41	53.5	41
One adult female from Lower California (February).....	372	142.5	39	51	38.5
One adult female from Sonora (no date).....	394	140	38	50	38.5
One adult female from Sinaloa (no date).....	372	150	40	52	39

- BAIRD, Cat. N. Am. Birds, 1859, no. 664; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 27 (Brazos, Texas).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 273 (Puget Sound, Washington).—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 246 (coast Labrador); 1862, 302 (monogr.); Check List, 1873, no. 548; 2d ed., no. 778; Birds Northwest, 1874, 636; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 655 (near Mouse River, N. Dakota).—BLAKISTON, Ibis, 1862, 10 (Saskatchewan River).—HENSEAW, Ann. Lyc. N. Y., xi, 1875, 13 (Utah); Zool. Exped. W. 100th Merid., 1875, 485 (Provo, Utah, Nov. 30); Auk, ii, 1885, 232 (Santa Barbara to San Diego, California, in winter); Birds Hawaiian Is., 1902, 127 (1 spec., exact locality unknown).—RIDGWAY, Orn. 40th Parallel, 1877, 638 (Pyramid Lake, Nevada, Dec.); Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 669.—BENDIRE, Proc. Bost. Soc. N. H., xix, 1877, 148 (Malheur Lake, e. Oregon, breeding).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 176 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 273 (Santa Ana, near Guadalajara, Jalisco, Nov.; Presidio de Mazatlan, Sinaloa, Jan., Feb.; Guaymas, Sonora, Dec.; etc.).—REID, Zoologist, 1877, 489 (Bermudas, once); Bull. U. S. Nat. Mus., no. 25, 1884, 266 (Bermudas, 1 spec., Jan. 1, 1849).—SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 64 (Galveston, Texas).—MAYNARD, Birds E. N. Am., 1881, 485.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 545 (Cape San Lucas district, Lower California).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 244.—DREW, Auk, ii, 1885, 18 (Colorado, 6,000–9,500 ft.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 54; 3rd ed., 1910, p. 39.—SETON, Auk, iii, 1886, 147 (w. Manitoba, breeding).—TOWNSEND, Proc. U. S. Nat. Mus., x, 1887, 192 (Summit Lake, near Mt. Lassen, California, 1 spec., June 5).—FEILDEN, Trans. Norwich Soc., iv, 1887, 351 (Hudson Bay).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 468 (Winnipeg, Lake Winnipeg, etc., Manitoba, breeding).—CORY, Cat. West Ind. Birds, 1892, 82, 135 (Cuba).—COOKE, Bull. 56, Col. Agric. Exp. Sta., 1900, 192 (San Luis Lakes, Colorado, 7,500 ft., breeding); Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 43, fig. 22 (range and migrations).—BREWSTER, Bull. Mus. Comp. Zool., xii, no. 1, 1902, 21 (Cape district, Lower California, in winter).—SALVIN and GOODMAN, Biol. Centr.-Am., Aves, iii, 1903, 424 (Guaymas, Sonora; Mazatlan and Presidio de Mazatlan, Sinaloa; Guadalajara and Santa Ana near Guadalajara, Jalisco; Gulf of Tehuantepec, Oaxaca; Bermudas; Cuba).—PREBLE, North Am. Fauna, no. 27, 1908, 267 (breeding n. to Great Slave Lake, Mackenzie).—WOOD and GAIGE, Pub. 4, Mich. Geol. and Biol. Surv., 1911, 277 (breeding near Neebish Islands, Upper Peninsula, Michigan).—GRINNELL (J.), Pacific Coast Avif., no. 11, 1915, 22 (California; winter visitor, whole State).
- [*Larus*] *delawarensis* GRAY, Hand-List, iii, 1871, 111, no. 10948.—COUES, Key N. Am. Birds, 1872, 313.—CORY, List Birds West Ind., revised ed., 1886, 33 (Cuba?).—SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.
- [*Larus*] *delawarensis* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois in winter); Man. N. Am. Birds, 1887, 32.—COUES, Key N. Am. Birds, 2d ed., 1884, 745.—BRYAN, Key Birds Hawaiian Group, 1901, 7 (Hawaiian Islands, accidental).
- Larus canus* (not of Linnæus) BONAPARTE, Specchio Comp., 1827, 69; Ann. Lyc. N. Y., ii, 1828, 359.
- Larus argentatoides* (not of Brehm) BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 360 (New York).
- Larus zonorhynchus* RICHARDSON, in Swainson and Richardson, Fauna Bor.-Am., ii, 1831, 421 (Saskatchewan, Manitoba).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 300.—AUDUBON, Orn. Biog., iii, 1835, 98, pl. 212.

- v, 1839, 638; Synopsis, 1839, 327; Birds Am., 8vo ed., vii, 1844, 152, pl. 446.—BONAPARTE, Geog. and Comp. List, 1838, 63.—GIRAUD, Birds Long Is., 1844, 360.—GRAY, List Birds Brit. Mus., Anseres, 1844, 171.—JARDINE, Contr. Orn., 1849, 86 (Bermudas, in autumn).—HURDIS, Jardine's Contr. Orn., 1850, 13 (Bermudas, 1 spec., Jan., 1849).—CABANIS, Journ. für Orn., 1857, 236 (Cuba).—BLAND, An. Rep. Smithson. Inst. for 1858 (1859), 289 (Bermudas).—GUNDLACH, Journ. für Orn., 1862, 94 (Cuba; crit.).—SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 22.
- [*Larus zonorhynchus* GRAY, Gen. Birds, iii, 1846, 654.—BONAPARTE, Consp. Av., ii, 1857, 224.—MARTENS, Journ. für Orn., 1859, 222 (Bermudas).
- [*Larus zonorhynchus* BONAPARTE, Compt. Rend., xlii, 1856, 771.—GRAY, Handlist, iii, 1871, 111, no. 10949.
- [*Larus (Flaucus)*] *zonorhynchus* BRUCH, Journ. für Orn., 1853, 102.
- [*Gavina*] *zonorhynchus* BONAPARTE, Naumannia, 1854, 212.—BRUCH, Journ. für Orn., 1855, 282 (monogr.).
- [*Larus (Glaucus)*] *occidentalis* (not *Larus occidentalis* Audubon) BRUCH, Journ. für Orn., 1853, 101, pl. ii, fig. 20 (California).
- [*Laroides*] *occidentalis* BRUCH, Journ. für Orn., 1855, 282 (monogr.).
- [*Gavina*] *bruchii* BONAPARTE, Naumannia, 1854, 212.
- [*Larus (Gavina)*] *bruchii* BRUCH, Journ. für Orn., 1855, 283 (monogr.).
- [*Larus zonorhynchus*] a. *mexicanus* BONAPARTE, Consp. Av., ii, 1857, 224.
- [*Larus zonorhynchus*] b. *bruchii* BONAPARTE, Consp. Av., ii, 1857, 224 (w. North America).
- [*Larus*] *bruchii* BONAPARTE, Compt. Rend., xlii, 1856, 771.

LARUS CANUS Linnæus.

NEW GULL.

Adults in summer (sexes alike).—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars, and wings uniform light gray (between pale and light neutral gray, and intermediate in tone between that of *L. argentatus* and *L. californicus*), the secondaries fading into white terminally (for about 20–25 mm.); outermost primary black with a subterminal area of white, including both webs and shaft, for a space of about 50–57 mm.; second primary similar, but the white space smaller (about 25–32 mm. long), and the basal portion more distinctly slaty; third primary usually^a without any white except at tip, the basal portion abruptly gray; fourth primary similar to third but the gray involving about basal half of exposed portion and more sharply defined against the black; fifth primary light gray, tipped with white and with a large subterminal area of black, 25 mm. or more in length (extending anteriorly along edges for about 19 mm. more), the light gray on inner web becoming white or nearly so where touching the black subterminal area; sixth primary with a subterminal black bar, about 12.7 mm. wide; remaining (proximal) primaries light gray (like back, etc.), passing terminally into white; bill greenish yellow (more olivaceous in dried skins), purer yellow terminally; rictus and naked orbital ring vermilion red

^a In some examples, perhaps very old birds, there is a roundish spot of white on inner web, about 38 mm. from tip.

(in life); iris grayish brown; legs and feet yellowish green or olive-yellowish.

Adults in winter.—Similar to summer adults, but occiput, nape, and hindneck longitudinally spotted with grayish brown; "iris cream color with dark gray mottlings;"^a rictus orange-red;^a naked orbital ring dusky red;^a legs and feet grayish olive-yellow, the joints darker, the webs purer yellow.^a

Young.—Head and neck dull whitish, striped with grayish brown; upper parts grayish brown, the feathers irregular but broadly margined with dull whitish, grayish white, or pale dull buffy; greater wing-coverts and secondaries pale gray, margined with pale buff and with a sub-margin of dusky grayish brown; tertials grayish brown margined with buffy white; primary coverts and primaries dull black or dusky, very narrowly tipped with white; rump and upper tail-coverts white, irregularly spotted with dusky grayish brown; tail with proximal two-thirds (approximately) grayish white, fading into pure white basally, the distal third dusky grayish brown narrowly tipped with white, the grayish white of lateral rectrices finely mottled with dusky, especially toward base; under parts grayish white, the chest and sides thickly spotted or blotched with light grayish brown; bill blackish terminally, dull whitish or flesh color basally; iris dark brown; naked orbital ring brownish; legs and feet whitish or yellowish flesh color.

Downy young.—"Covered all over with a soft yellowish gray down, whiter in tint on the face, throat, and abdomen; forehead blackish brown; entire upper parts spotted here and there with large blackish spots, one or two spots being also on the throat, under parts generally unspotted, except that on the flanks there are some irregular black marks. It may be distinguished from the young of other Gulls by a large black spot which touches the base of the upper mandible, and which is never absent, though often varying in size."^b

Adult male.—Wing, 348–380 (364); tail, 135–150.5 (141.9); exposed culmen, 36.5–45 (39.5); tarsus, 45–56 (50.2); middle toe, 35–45 (38.3).^c

Adult female.—Wing, 339; tail, 139; exposed culmen, 38; tarsus, 52; middle toe, 42.5.^d

^a Stejneger, Bull. U. S. Nat. Mus., No. 29, p. 76.

^b Dresser, Birds of Europe.

^c Eight specimens.

^d One specimen (from Bering Island, Kamchatka).

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
Six adult males from Europe.....	364	139.9	38	48.6	38.1
Two adult males from Kamchatka (Petropavlski).....	364	146.7	44	55	42.5

Northern Europe and Asia, from Iceland (rare and not breeding), Faro, Shetland, Orkney, and other British Islands and Norway to eastern Siberia and Kamchatka; breeding from about lat. 53° northward; migrating southward as far as Canary Islands, Mediterranean and Black seas, China, and Japan; accidental in Labrador (Henley Harbor, Aug. 21, 1860) ?^a

[*Larus*] *canus* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 136 (Sweden); ed. 12, i, 1766, 224.—BRÜNNICH, Orn. Bor., 1764, 43 (Iceland).—GMELIN, Syst. Nat., i, pt. ii, 1789, 596.—LATHAM, Index Orn., ii, 1790, 815.—GRAY, Hand-list, iii, 1871, 111, no. 10945.—SHARPE, Hand-list, i, 1899, 142.

Larus canus SCOPOLI, Ann. I, 1769, 79.—MÜLLER, Nat. Syst., ii, 1773, 345.—RETZIUS, Fauna Suecica, 1790, 158.—BECHSTEIN, Naturg. Deutschl., ii, 1791, 808.—MEYER and WOLF, Taschenb., ii, 1810, 475.—LEISLER, Nachtr. Deutschl., 1812, 14.—MEYER, Vög. Liv-u. Esthl., 1815, 232; Taschenb., iii, 1822, 200.—TEMMINCK, Man. d'Orn., 1815, 498; 2d ed., ii, 1820, 771.—MEISNER and SCHINZ, Vög. Schweiz, 1815, 269.—Koch, Syst. baier. Zool., 1816, 374.—LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 40.—NILSSON, Orn. Suec., ii, 1817, 172.—BOIE, Isis, 1822, 563.—BREHM, Lehrb., 1824, 707; Isis, 1830, 994.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 198.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 330.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 359; Geog. and Comp. List, 1838, 63.—VIEILLOT, Faun. Franç., Ois., 1828, 389.—WERNER, Atlas, Palmipèdes, 1828, pl. 24.—FLEMING, Brit. Anim., 1828, 140.—KAUP, Natürl. Syst., 1829, 58.—SAVI, Orn. Tosc., iii, 1831, 59.—SELBY, Brit. Birds, ii, 1833, 490, pl. 93.—JENYNS, Man. Brit. Vertebr., 1835, 275.—EYTON, Cat. Brit. Birds, 1836, 52.—GOULD, Birds Europe, v, 1837, pl. 437 and text; Birds Great Brit., v, 1873, pl. 60 and text.—NAUMANN, Vög. Deutschl., x, 1840, 301, pl. 261.—SELYS-LONGCHAMPS, Faune Belge, 1842, 153.—MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 248; Brit. Birds, v, 1852, 575.—YARRELL, Brit. Birds, iii, 1843, 452; 2d ed., iii, 1845, 570.—SCHLEGEL, Rev. Crit., 1844, p. cxxv; Vog. Nederl., 1854, 599, pl. 349; Dier. Nederl. Vogels, 1861, 236; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 23.—GRAY, List Birds Brit. Mus., Anseres, 1844, 171; Cat. Brit. Birds, 1863, 233.—HEWITSON, Eggs Brit. Birds, ii, 1846, 441, pl. 125.—DEGLAND, Orn. Eur., ii, 1849, 313.—THOMPSON, Birds Ireland, iii, 1851, 348.—KJÆRBÖLLING, Danm. Fugle, 1852, 339, pl. 42.—MIDDENDORFF, Sibir. Reise, ii, pt. 2, 1853, 243.—HEUGLIN, Syst. Ueb., 1856, 69 (coast Egypt); Orn. N. O-Afr., Bd. ii, pt. 2, 1873, 1377 (Nile up to Khartum).—MEYER, Brit. Birds, vii, 1857, pl. 304.—SCHRENCK, Reis. Amurl., 1859, 509.—LINDER-MAYER, Vög. Griechenl., 1860, 175.—SWINHOE, Ibis, 1860, 68 (Amoy, s. China); 1861, 345 (n. China); Proc. Zool. Soc. Lond., 1871, 420 (China).—SUNDEVALL, Svensk. Fogl., 1863, pl. 49, fig. 6.—NEWTON, in Baring-Gould's Iceland, 1863, 418 (1 spec.).—RADDE, Reis. Sibir., Vög., 1863, 387; Orn. Caucas., 1884, 478.—SALVADORI, Ucc. Sardin., 1864, 128; Faun. Ital., Ucc., 1872, 292; Ucc. Ital., 1887, 286.—WRIGHT, Ibis, 1864, 151 (Malta); 1874, 238 (Malta).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 424.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 184.—HOLTZ, Journ. für Orn., 1868, 124 (Gottland,

^a The specimen on which the alleged Labrador record is based is still in the collection of the U. S. National Museum, and "found its way to the British Museum" (Cooke, Distribution and Migration of North American Gulls and their Allies, 1915, 49)—or, more correctly, to Mr. Howard Saunders, the expert authority on birds of this group—and was duly returned many years ago. It is a young bird, and I strongly suspect is merely *L. delawarensis*.

breeding).—DROSTE, *Journ. für Orn.*, 1869, 384 (Faroe Islands).—FRITSCH, *Vög. Eur.*, 1870, 476, pl. 55, fig. 7; pl. 56, fig. 5.—ELWES and BUCKLEY, *Ibis*, 1870, 336 (Black Sea and Gulf of Volo).—HOMER, *Journ. für Orn.*, 1870, 437 (e. Siberia).—SAUNDERS, *Ibis*, 1871, 400 (s. Spain); 1891, 188 (Lake Léman, Switzerland; *Proc. Zool. Soc. Lond.*, 1877, 799 (Japan); 1878, 177 (monogr.); *Journ. Linn. Soc. (Zool.)*, xiv, 1879, 396 (range); *Voy. 'Challenger'*, ii, pt. viii, 1881, 138 Japan); ed. Yarrell's *Brit. Birds*, iii, 1884, 613; *Man. Brit. Birds*, 1889, 655; *Cat. Birds Brit. Mus.*, xxv, 1896, 277.—GRAY (R.), *Birds West Scotl.*, 1871, 483.—SHELLEY, *Birds Egypt*, 1872, 305 (Dami-etta).—HARTING, *Handb. Brit. Birds*, 1872, 77.—PALMÉN, *Finl. Fogl.*, 1873, 506.—TACZANOWSKI, *Journ. für Orn.*, 1873, 111 (e. Siberia); *Ornis*, 1883, 507 (Poland).—ALSTON and HARVIE-BROWN, *Ibis*, 1873, 52 (Archangel, n. Russia).—BROOKE, *Ibis*, 1873, 347 (Sardinia).—DRESSER, *Birds Europe*, viii, 1873, 381, pl. 600.—SEVERTSOV, *Turkestan. Jevotn.*, 1873, 70 (Aral to Balkash).—DURNFORD, *Ibis*, 1874, 402 (North Friesian Islands).—IRBY, *Orn. Straits Gibralt.*, 1875, 214; 2d ed., 1895, 298.—BLANFORD, *East. Persia*, ii, 1876, 291 (Bushire).—SEEBOHM and HARVIE-BROWN, *Ibis*, 1876, 451 (lower Petchora River, Russia; habits).—COLLETT, *Nyt Mag. Naturv.*, 1877, 208 (n. Norway).—DAVID and OUSTALET, *Ois. Chine*, 1878, 517.—BREWER, *Bull. Nutt. Orn. Club*, iii, 1878, 50 (Labrador).—SEEBOHM, *Ibis*, 1879, 161 (Yenesei Valley, Siberia, breeding; habits; descr. eggs); 1882, 230 (Kirghiz Steppes, breeding), 386 (Archangel, n. Russia); *Hist. Brit. Birds*, iii, 1885, 316; *Birds Japan. Emp.*, 1890, 293.—MÜLLER, *Journ. für Orn.*, 1879, 392 (Cyprus).—RODD, *Birds Cornwall*, 1880, 169.—BLAKISTON and PRYER, *Trans. Asiat. Soc. Japan*, viii, 1880, 189; x, 1882, 104.—BRANDT, *Journ. für Orn.*, 1880, 253 (Finnish Islands, breeding).—ALLEN, *Bull. Nutt. Orn. Club*, v, 1880, 91 (Labrador); *Bull. Am. Mus. N. H.*, xxi, 1905, 226 (Gichiga and Marcova, n. e. Siberia, breeding; habits).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880 (*Cat. N. Am. Birds*), 207; *Nom. N. Am. Birds*, 1881, no. 671.—COUES, *Check List*, 2d ed., 1882, no. 779.—BRITISH ORNITHOLOGISTS' UNION, *List. Brit. Birds*, 1883, 189.—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 250 (Labrador).—TRISTRAM, *Fauna and Flora Palestine*, 1884, 137.—BLAKISTON, *Amend. List Birds Japan*, 1884, 20.—STEJNEGER, *Bull. U. S. Nat. Mus.*, no. 29, 1885, 76 (Bering Island, Commander group, Kamchatka; synonymy, crit., etc.); *Proc. U. S. Nat. Mus.*, iv, 1887, 123 (Bering Island); xxi, 1898, 276 (Kuril Islands; breeding?).—LÜTKEN, *Ornis*, 1885, 145 (Darmark).—TORRE and TSCHUSI, *Ornis*, 1885, 561 (Austria-Hungary).—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, and 2d ed., 1895, no. 56; 3rd ed., 1910, p. 39.—TAYLOR, *Ibis*, 1886, 379 (Suez Canal).—GIGLIOLI, *Avif. Ital.*, 1886, 428.—OLPHE-GALLIARD, *Orn. Eur. Occid.*, fasc. x, 1886, 76.—ALLÉON, *Ornis*, 1886, 422 (Black Sea).—HARVIE-BROWN and BUCKLEY, *Faun. Sutherl.*, 1887, 231; *Faun. Outer Hebrides*, 1888, 146.—WINGE, *Ornis*, 1890, 379 (Holland, Denmark, breeding).—STEVENSON and SOUTHWELL, *Birds Norfolk*, iii, 1890, 335.—STYAN, *Ibis*, 1891, 508 (lower Yangtze River, China).—GÄTKE, *Vogelw. Helgoland*, 1891, 574.—BUCKLEY and HARVIE-BROWN, *Faun. Orkney Is.*, 1891, 231; *Faun. Argyll, etc.*, 1892, 190.—SCHALOW, *Journ. für Orn.*, 1891, 262 (Kamchatka; Sitka, Alaska?).—CAMPKELL, *Ibis*, 1892, 246 (Korea).—DE LA TOUCHE, *Ibis*, 1892, 501 (Foochow and Swatow, China, in winter).—D'URBAN and MATHEW, *Birds Devon*, 1892, 379.—MACPHERSON, *Faun. Lakeland*, 1892, 427.—MEADE-WALDO, *Ibis*, 1893, 206 (Canary Islands, rare).—KOENIG, *Journ. für Orn.*, 1893, 100 (Tunis, Algiers).—BLAGG, *Ibis*, 1893, 356 (Shetland Islands, breeding; habits).—PEARSON and BIDWELL, *Ibis*, 1894, 236 (n. Norway, breeding).—PEARSON, *Ibis*, 1895, 248 (Iceland, not breeding); 1896, 212 (Russian Lapland, breed-

- ing; descr. eggs).—POPHAM, Ibis, 1897, 106 (Yenesei River, Siberia); 1898, 518 (Yeniseisk, Yenesei River).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 10 (Kolyma River, e. Siberia, May 21).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 49 (range and migration).
- L[arus] canus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 244.—BONAPARTE, Cons. Av., ii, 1857, 223.—BLASIUS, Journ. für Orn., 1865, 380 (crit.).—COUES, Key N. Am. Birds, 2d ed., 1884, 746.—RIDGWAY, Man. N. Am. Birds, 1887, 33.
- [Larus canus* var. *brachyrhynchus*] a. *canus* COUES, Birds Northwest, 1874, 638 (synonymy).
- Laroides canus* BREHM, Isis, 1830, 994; Vög. Deutschl., 1831, 752; Naumannia, 1855, 294.
- Glaucus canus* BRUCH, Journ. für Orn., 1853, 102.
- [Gavina] canus* BONAPARTE, Naumannia, 1854, 212.—BRUCH, Journ. für Orn., 1855, 284 (monogr.).
- Gavia cana* MENZBIER, Bull. Mosc., fviii, no. 1, 1883, 136 (Oka).
- Xema canum* JAUBERT and BARTHÉLEMY-LAPOMMERAYE, Rich. Orn. Midi France, 1859-62, 393.
- Larus (Gavina) canus* DROSTE, Vogelw. Borkum, 1869, 344.
- [Larus] maculatus* BRÜNNICH, Orn. Bor., 1764, 44 (Copenhagen, Denmark).
- Larus cinereus* SCOPOLI, Ann. I. Hist. Nat., 1769, 80.
- [Larus] hybernus* TUNSTALL, Orn. Brit., 1771, 3.—GMELIN, Syst. Nat., i, pt. ii, 1789, 596.—BONAPARTE, Compt. Rend., xlii, 1856, 771.—GRAY, Hand-list, iii, 1871, 111, no. 10947.
- L[arus] hybernus* GRAY, Gen. Birds, iii, 1846, 654.—BONAPARTE, Cons. Av., ii, 1857, 223.
- [Larus canus]* β LATHAM, Index Orn., ii, 1790, 816 (= *Larus hybernus* Gmelin, ex Tunstall).
- Larus procellosus* BECHSTEIN, Orn. Taschenb., ii, 1803, 373 (Germany).
- Laroides procellosus* BREHM, Isis, 1830, 994; Vög. Deutschl., 1831, 750; Naumannia, 1855, 294.
- Larus cyanorhynchus* MEYER, Taschenb. Vög. Deutschl., ii, 1810, 480 (North; Sea, etc.); Zusätze, 1822, 200.—KOCH, Syst. baier. Zool., 1816, 375.
- [?] *Larus niveus* (not of Boddaert, 1783) SWINHOE, Ibis, 1862, 428 (Formosa); 1870, 336 (Hainan); 1874, 165 (Hakodate, Japan); 1875, 138 (Chefoo, China); Proc. Zool. Soc. Lond., 1863, 325 (Amoy, China); 1871, 420 (Amoy, China).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 426.—SEVERTZOV, Journ. für Orn., 1875, 185 (Sea of Aral to Tianshan).—TACZANOWSKI, Bull. Soc. Zool. France, 1877, 263 (e. Siberia).—PRJEVALSKY, Rowley's Orn. Misc., iii, 1878, 108 (Hoang-ho valley; s. e. Mongolia, April).—DAVID and OUSTALET, Ois. Chine, 1878, 518.—ALLÉON, Orn. 1886, 422 (Black Sea).
- Larus canus niveus* TACZANOWSKI, Mém. Acad. Petersb., xxxix, 1893, 1034 (e. Siberia).
- [Laroides] canescens* BREHM, Isis, 1830, 994 (*nomen nudum*).
- Laroides canescens* BREHM, Vög. Deutschl., 1831, 753 (Germany); Vogelf., 1855, 340; Naumannia, 1855, 294.
- [?] *Larus canus*, var. *major* MIDDENDORFF, Reis. Sibir., ii, pt. 2, 1853, 243, pl. 24, fig. 4 (s. e. Siberia).
- [?] *Larus canus major* SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 26.
- [Glaucus] lacrymosus* (not *Larus lacrymosus* Lichtenstein, 1854) BRUCH, Journ. für Orn., 1853, 102.
- Laroides lacrymosus* BREHM, Naumannia, 1855, 294.
- Larus heinei* HOMEYER, Naumannia, 1853, 129 (Greece).
- [Gavina] heinei* BRUCH, Journ. für Orn., 1855, 283.

[*Larus hybernus*] a. *ferroensis* BONAPARTE, Consp. Av., ii, 1857, 223.

[*Larus hybernus*] b. *islandicus* BONAPARTE, Consp. Av., ii, 1857, 223.

Larus suckleyi (not of Lawrence) SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 27 (Japan).

Larus audouini (not of Payraudeau, 1826) TRISTRAM, Proc. Zool. Soc. Lond., 1864, 455; Ibis, 1868, 330 (Palestine).

(?) *Larus delawarensis* (not of Ord) COUES, Proc. Ac. Nat. Sci., 1861, 246, part (Henley Harbor, Labrador; 1 spec.).

LARUS BRACHYRHYNCHUS Richardson.

SHORT-BILLED GULL.

Similar to *L. canus*, but averaging slightly smaller (except tail and middle toe, which are longer), and bill relatively shorter and deeper; adults with gray "wedge" on inner web of third primary (from outside) always white distally, this white carried beyond tip of sixth (often beyond tip of fifth) primary, and black subterminal area of longer primaries more restricted.

Adults in summer.—Head, neck, rump, upper tail-coverts, tail, and entire under parts, including axillars and under wing-coverts, immaculate pure white; back, scapulars and wings uniform neutral gray (between pale and light—almost exactly as in *L. canus* and *L. californicus*), the secondaries passing into white terminally (for about 30–32 mm); outermost primary slate-black, the subterminal portion (for about 51 mm.) white, including shaft, the tip black, the inner web more slaty than the outer, with basal half, more or less, sometimes grayish white, minutely freckled with darker, but usually plain slaty gray, paler basally; second primary (from outside) with basal half of outer web and much more of inner web pale gray, then black (abruptly) followed by a white area, about 44–45 mm. long, then a black spot or band, about 17–18 mm. wide, and a small apical spot of white; third primary tipped with white, the subterminal portion, for about 25.5 mm. on inner web and 51 mm. or more on outer web, black, the remaining portion light gray, becoming white or nearly so on inner web where joining the black subterminal area; fourth primary similar, but the black subterminal area more restricted, and the gray of outer web passing into white distally; fifth primary with the subterminal black area still smaller, forming a band about 19 mm. wide, the white preceding this band still more extensive; sixth primary with the subterminal black band still narrower, usually less than 13 mm. wide, seldom more, and sometimes confined to inner web; remaining (proximal) primaries light gray (like back, etc.), passing gradually but broadly into white terminally; bill greenish yellow; rictus and eyelids vermilion red; iris dark brown; legs and feet greenish (in life), the webs yellowish.

Adults in winter.—Similar to summer adults, but head and neck (sometimes chest also) longitudinally spotted with light grayish brown.

Immature.—Similar to adults, but subterminal areas of longer primaries deep brownish gray or dusky instead of black, and more extended, the white tip of some of the primaries wanting; tail sometimes (in younger individuals) more or less blotched with dusky on terminal portion, and upper tail-coverts sometimes (in still younger birds) faintly barred with grayish brown.

Young.—Head, neck, and under parts nearly uniform light brownish gray or grayish brown; upper parts grayish brown, the feathers margined with pale grayish buff, the rump and upper tail-coverts pale grayish buff or dull buffy whitish, irregularly, and more or less distinctly, spotted with grayish brown; basal half (approximately) of tail dull grayish white or very pale grayish, transversely mottled with darker, the distal portion deep grayish brown, forming a well-defined broad band, the extreme tip whitish.

Young in first winter.—Similar to the first plumage, but light colored margins to feathers of upper parts decidedly white; basal half of tail uniform grayish white; under parts mostly white, the chest and sides spotted or clouded with light grayish brown; upper parts more or less tinged with pure light gray.

Downy young.—General color pale brownish gray or buffy grayish, paler and usually more buffy on head, neck, and under parts; head with numerous irregular rather large spots of black, of which the most conspicuous occupy the anterior portion of forehead (as in *L. canus*) and posterior portion of malar region, respectively; back, etc., with large, irregular spots or cloudings of sooty grayish or dusky; bill dusky brownish, broadly tipped with lighter and more yellowish brown.

Adult male.—Wing, 352–366 (358.9); tail, 137–148 (142.8); exposed culmen, 33–38 (36.4); tarsus, 46.5–51 (49.4); middle toe, 37.5–41 (39.5).^a

Adult female.—Wing, 328–354 (344.6); tail, 131.5–139 (134.9); exposed culmen, 32–37 (34.1); tarsus, 45–48 (46.7); middle toe, 36–38.5 (37.5).^b

^a Seven specimens.

^b Eleven specimens.

Locality.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Mackenzie.....	366	143	38	50	40
Six adult males from Alaska.....	357.7	142.7	36.2	49.2	39.4
FEMALES.					
Five adult females from Mackenzie.....	347.2	134.3	34.3	46.4	37.2
Six adult females from Alaska.....	342.5	135.3	33.9	46.9	37.7

Northwestern North America; breeding in Mackenzie (Lockhart River; Fort Resolution; Fort Rae; Fort Anderson; Lower Slave River), northern Athabasca (Lake Athabasca), Yukon (mouth of Porcupine River; Lake Marsh), Alaska (Fort Yukon; St. Michaels; mouth of Kowak River; Cape Lisburne; Morshovoi Bay; Nushagak; Kodiak Island; Homer, Cook Inlet; Yakutat; Glacier Bay; Montague Island; Hawkins Island; Nelson Island), and extreme northwestern corner of British Columbia (Lake Marsh; Hot Springs; Pike River); migrating southward along Pacific coast as far as San Diego, California; casual or accidental in Quebec (Quebec), Wyoming (Lake Fork, Wind River Mountains, 10,000 feet altitude, Aug. 28, 1893), and Kuril Islands (Feb.).

Larus canus (not of Linnæus) SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 420 (Great Bear Lake, June 7=adult).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 299.—HENSHAW, Auk, ii, 1885, 232 (coast s. California, common in winter).—SCHALOW, Journ. für Orn., 1891, 262, part (Sitka, Alaska).—MAILLIARD, Auk, xv, 1898, 198 (San Francisco Bay, California).—GRINNELL (J.), Pacific Coast Avif., no. 3, 1902, 12 (California range).—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 63 (Monterey Bay, California).

Larus brachyrhynchus RICHARDSON, in Swainson and Richardson, Fauna Bor.-Am., ii, 1831, 422 (Fort Franklin, Great Bear Lake, Mackenzie; =young).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 301.—BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 335 (w. North America); Cat. N. Am. Birds, 1859, no. 664a.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 302 (monogr.); Check List, 2d ed., 1882, no. 780.—ELLIOT, New and Unfig. N. Am. Birds, pt. 12, 1868 (vol. ii), pl. 53, front fig. and text.—DALL and BANISTER, Trans. Chicago Ac. Sci., i, 1869, 305 (Fort Yukon, St. Michaels, Kodiak, and Sitka, Alaska).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 178 (monogr.); Cat. Birds Brit. Mus., xxv, 1896, 283.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 670.—NELSON, Cruise 'Corwin' in 1881 (1883), 107 (Alaska Peninsula to head of Norton Sound); Rep. N. H. Coll. Alaska, 1887, 54 (Alaskan mainland; habits, etc.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 247.—HENSHAW, Auk, ii, 1885, 232 (coast s. California, common in winter).—EVERMANN, Auk, iii, 1886, 88 (San Buenaventura, California, 1 spec., Dec.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 55; 3d ed., 1910, p. 39.—TURNER, Contr. Nat. Hist. Alaska, 1886, 126 (St. Michaels, etc.; habits).—BOWLES, Auk, xxiii, 1906, 139 (Tacoma, Washington, common in winter).—KERMODE, Provincial Mus. Victoria, 1909, 24 (coast, lower Fraser River, and Caribou District, Brit. Columbia, winter resident).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 22 (whole coast California, common winter visitant).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 46, fig. 23 (range and migrations).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lxx, 1915, 373 (Demarcation Bay, n. e. Alaska, June 18).—GRANINI, Auk, xxxiv, 1917, 397 (Stepovak Bay, Alaska Peninsula, breeding).

[*Larus*] *brachyrhynchus* COUES, Key N. Am. Birds, 2d ed., 1884, 746.—RIDGWAY, Man. N. Am. Birds, 1887, 34.

[*Larus*] *brachyrhynchus* SHARPE, Hand-list, i, 1899, 142.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58.

- [*Larus*] *canus* var. *brachyrhynchus* COUES, Key N. Am. Birds, 1872, 313.
Larus canus . . . var. *brachyrhynchus* COUES, Check List, 1873, no. 549.
 [*Larus canus*.] Var. *brachyrhynchus* COUES, Birds Northwest, 1874, 639 (descr., range, etc.)
 [*Larus canus* var. *brachyrhynchus*] c. *brachyrhynchus* COUES, Birds Northwest, 1874, 639, (synonymy).
Larus suckleyi LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vi, 1857 (pub. Feb., 1858?), 264 (Puget Sound; coll. U. S. Nat. Mus.;=young); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 848.—BAIRD, Cat. N. Am. Birds, 1859, no. 665.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 274, (Puget Sound).—SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 27, part.
 ?*Larus suckleyi* BLASIUS, Journ. für Orn., 1865, 381 (crit.).
Rissa septentrionalis LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vi, 1857 (pub. Feb., 1858?), 265 ("Puget Sound" i. e., Bellingham Bay, Washington; coll. U. S. Nat. Mus.;=adult); in Baird, Rep. Pacific R. R. Surv., ix, 1858, 854.—BAIRD, Cat. N. Am. Birds, 1859, no. 673.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 277 (Bellingham Bay).

Genus CHROICOCEPHALUS Eyton.

- Chroicocephalus* EYTON, Cat. Brit. Birds, 1836, 53. (Type, *Larus capistratus* Temminck=*L. ridibundus* Linnæus.)
Chroicocephalus (emendation) WHARTON, Zoologist, 1878, 105.
Kroicocephalus (emendation) JAMESON, Journ. Asiat. Soc., viii, 1839, 243.
Chroicephalus (emendation) REICHENBACH, Av. Syst. Nat., Longip., 1852, p. v.
Chroocephalus (emendation) VERRILL, Proc. Essex Inst., iii, 1862, 159.
Chroocephalus (emendation) SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 576 foot-note.
Chroecocephalus (emendation) HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 358.
Atricilla BONAPARTE, Naumannia, 1854, 212. (Type, by tautonymy, *Larus atricilla* Linnæus.)
Cirrhocephala BONAPARTE, Naumannia, 1854, 213. (Type, by tautonymy, *Larus cirrhocephalus* Vieillot.)
Cirrocephalus (emendation) BRUCH, Journ. für Orn., 1855, 288.
Melanolarus HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 359. (Type, by original designation, *Larus franklini* Swainson and Richardson.)

Rather small to very small Laridæ (wing less than 350 mm.) with relatively small and slender bill, tarsus longer than middle toe without claw, and longer than exposed culmen; adults with head and upper neck gray (more or less dark, sometimes nearly black) or brown in summer, relieved by a white spot above eye and another below, or a white orbital ring, and longer primaries partly black; young with rump and upper tail-coverts immaculate white, and scapulars, inter-scapulars and wing-coverts grayish brown margined (but not barred, streaked, nor mottled) with whitish or buffy.

Range.—Nearly cosmopolitan, but wanting from Arctic and Antarctic regions and Oceania. (About 12 species, 6 of them peculiar to America, 1 common to South America and Africa.)

KEY TO THE SPECIES OF CHROICOCEPHALUS.

- a. Tarsus much longer than middle toe with claw, the latter decidedly shorter than exposed culmen.
 - b. Tail entirely white; back, scapulars, and wings uniform neutral gray, the longer primaries partly black; head dark quaker drab in summer. (Atlantic and Gulf coasts of United States and West Indies; coast of western Mexico in winter; casual in Mississippi Valley.). *Chroicocephalus atricilla*, adults (p. 636).
 - bb. Tail gray and blackish; scapulars, interscapulars, and wing-coverts grayish brown broadly margined with whitish or pale buffy; chest and breast brownish gray or grayish brown, like head and neck.

Chroicocephalus atricilla, young (p. 637).

- aa. Tarsus not longer than middle toe with claw, the latter longer than exposed culmen.
 - b. Bill much stouter, its depth at gonydeal angle equal to more than one-fourth the length of exposed culmen, reddish; three outer primaries without white, except at tips.
 - c. Tail white, shaded with gray on middle rectrices; back, scapulars, and wings uniform neutral gray, the longer primaries partly black and white; head dusky purplish gray and bill deep red in summer. (Interior of North America, south in winter to Peru, Chile, etc.).

Chroicocephalus franklini, adults (p. 641).

- cc. Tail pale gray or grayish white with a broad subterminal band of blackish; back and scapulars grayish brown, some of the latter margined terminally with pale grayish buffy; bill blackish, with reddish or pinkish tinge basally.

Chroicocephalus franklini, young (p. 642).

- bb. Bill much more slender, its depth at gonydeal angle equal to less than one-fourth the length of exposed culmen, black; three outer primaries extensively white.
- c. Tail entirely white; back, scapulars, and wing-coverts uniform pale neutral gray; head very dark purplish gray in summer. (Whole of North America, breeding northward; southward in winter to Yucatan, Jalisco, etc.)

Chroicocephalus philadelphia, adults (p. 645).

- cc. Tail with a broad subterminal band of black; scapulars and interscapulars grayish brown, tipped with pale buff; central area of lesser wing-covert tract dusky.....*Chroicocephalus philadelphia*, young (p. 645).

CHROICOCEPHALUS ATRICILLA (Linnaeus).

LAUGHING GULL.

Adults in summer (sexes alike).—Head and upper half of neck (extending farther downward in front than behind) plain dark sooty gray or dark quaker drab, darkest on upper neck; a small elongated spot of white on each eyelid; lower neck (all round), upper tail-coverts, tail, and under parts immaculate white, the under parts sometimes (in newly killed specimens) tinged with delicate pink; back, scapulars, wings, and rump uniform neutral gray, the tertials, secondaries and proximal primaries broadly tipped with white; five outer primaries black, with or without a small apical spot of white, the third, fourth, and fifth (from outside) with basal portion gray for a greater or less distance, this sometimes abruptly defined against the black of distal portion, sometimes shading gradually into it; remain-

ing (proximal) primaries gray tipped with white, the sixth (from outside) sometimes with a subterminal spot or band of black; bill dark brownish red (in life) the terminal third of culmen and gonys blood red or carmine; iris dark brown; naked orbital ring dull dark red; legs and feet dark reddish brown (in life), the webs darker.

Adults in winter.—Similar to summer adults but head and upper neck white, the occipital and auricular regions spotted or mottled with brownish gray and the eyes more or less surrounded with the same.

Young.—Interscapulars, scapulars, and smaller wing-coverts grayish brown, broadly margined with pale grayish buff or clay color; greater wing-coverts gray, tinged on margin of terminal portion with pale grayish buff; secondaries dusky, abruptly tipped with white; primary coverts and primaries dull black or slate-blackish, the latter narrowly tipped with white; central portion of rump light brownish gray, the lateral and posterior portions, together with upper tail-coverts and posterior under parts, white; basal half of tail light gray, the distal portion dull black, narrowly tipped with white; head, neck, chest, breast, and sides nearly uniform brownish gray or grayish brown, darker on occiput and nape, and more or less tinged with dull buffy on under parts (especially in younger individuals); abdomen grayish white or very pale brownish gray; bill and feet dusky (in dried skins).

Downy young.—Upper parts deep grayish buffy or grayish fulvous, the head irregularly striped and spotted, the back, wings, and rump irregularly marbled with dusky; under parts light grayish fulvous, inclining to dull ochraceous on breast and abdomen, which are immaculate; lateral and lower portions of head marked with several large and distinct spots of black; foreneck, sides, flank, and anal region dull fulvous-grayish, faintly mottled with darker; bill light brownish; legs and feet dusky brownish.

Adult male.—Wing, 316–348 (332.7); tail, 121–135 (127.6); exposed culmen, 40–43 (41); tarsus, 47–53 (50.4); middle toe, 34.5–38 (36).^a

Adult female.—Wing, 311–331 (322); tail, 116–125.5 (120.2); exposed culmen, 38–40 (39.1); tarsus, 46–51.5 (48.1); middle toe, 32.5–35 (33.5).^a

Atlantic and Gulf coasts of United States, Gulf and Caribbean coasts of Mexico and Central America, Caribbean coast of northern South America, West Indies, and other islands in Caribbean Sea; breeding from Maine (Penobscot Bay)—formerly (up to 1856) from Nova Scotia (Green Island, near Yarmouth)—to southernmost Lesser Antilles (Grenada, Grenadines, etc.), islands of Aruba, Bonaire, and Curaçao, Margarita Island, Venezuela, Panamá (Colón), cays off coast

^a Ten specimens.

of British Honduras, etc.; during August to February occurring also on Pacific coast of Mexico (Mazatlán, Sinaloa; Manzanillo, Colima; Juchitán, Ventosa Bay, and San Mateo, Oaxaca; Tonalá, Chiapas) and Guatemala (Chiapám); occasional migrants occurring on coasts of British Guiana (Georgetown), Surinám, northern Brazil (Cajutuba, Feb. 20, 1835), in Bermuda (1 specimen, winter of 1851-52), coast of Peru (Santa Lucia, Dec. 20, 1876), and coast of Chile; casual in interior districts of United States and Canada (Montreal, Oct. 24, 1868; Toronto, May 23, 1890, and June 1, 1898; Buffalo, Cayuga Lake, and Sodus Bay, New York; Lake Koshkonong, Wisconsin, July, 1860; Blencoe, Iowa, Oct. 10, 1894; Alda, Nebraska, July, 1880; Douglas County, Kansas, 1888, 1901, 1905, 1906, 1911; Sloans Lake, near Denver, Colorado, Dec., 1889; Fort Wingate, New Mexico).^a

[*Larus*] *atricilla* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 136, part (Bahamas; based on *Larus major* Catesby, Nat. Hist. Carolina, i, 1731, p. 89, pl. 89); ed. 12, i, 1766, 225.—GMELIN, Syst. Nat., i, pt. ii, 1789, 600.—LATHAM, Index Orn., ii, 1790, 813.—PELZELN, Orn. Bras., 1870, 461.—GRAY, Hand-list, iii, 1871, 114, no. 10989.—COUES, Key N. Am. Birds, 1872, 315.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 62 (accidental in England and France).—CORY, List Birds West Ind., revised ed., 1886, 33 (Bahamas; Greater Antilles).—SHAERPE, Hand-list, i, 1899, 140.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 57 (New Jersey; Belize, Brit. Honduras).

Larus atricilla VIELLOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 501.—TEMMINCK, Man. d'Orn., 2d ed., pt. ii, 1820, 779, part (young=*C. melanocephalus*); pt. 4, 1840, 483.—BREHM, Lehrb., 1824, 722.—STEPHENS, Shaw's Gen. Zool., xiii, pt. i, 1826, 205.—BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [215] (descr. plumages); Ann. Lyc. N. Y., ii, 1828, 359.—FLEMING, Brit. Anim., 1828, 142.—JARDINE, ed. Wilson's Am. Orn., iii, 1832, 216, pl. 74, fig. 4.—(?) RENNIE, ed. Montagu's Orn. Dict., 1831, 259 (Winchelsea, England).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 291.—JENYNS, Man. Brit. Vertebr., 1835, 274.—AUDUBON, Orn. Biog., iv, 1838, 118, pl. 314; Synopsis, 1839, 324; Birds Am., 8vo ed., vii, 1844, 136, pl. 443.—D'ORBIGNY, in La Sagra's Hist. Nat. Cuba, Ois., 1839, 212.—YARRELL, Brit. Birds, iii, 1843, 439 (Shingley Flats, near Winchelsea, and Hastings, Sussex, England); 2d ed., iii, 1845, 557.—GERAUD, Birds Long Is., 1844, 358.—SCHLEGEL, Rev. Crit., 1844, p. cxxvii; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 44.—DEGLAND, Orn. Eur., ii, 1849, 321.—HURDIS, Jardine's Contr. Orn., 1850, 38 (Bermudas).—PUTNAM, Proc. Essex Inst., 1856, 221 (Massachusetts).—MEYER, Brit. Birds, vii, 1857, 131, pl. 303.—JONES, Nat. in Bermuda, 1859, 92.—BRYANT, Proc. Bost. Soc. N. H., vii, 1859, 134 (Bahamas).—BREWER, Proc. Bost. Soc. N. H., viii, 1860, 308 (Cuba).—ALBRECHT, Journ. für Orn., 1861, 58 (Bahamas).—GRAY, List Brit. Birds, 1863, 234.—TAYLOR, Ibis, 1864, 172 (St. Thomas; Porto Rico).—SALVIN, Ibis, 1865, 188, 190 (Guatemala); 1886, 180 (Brit. Guiana); 1889, 379 (Cozumel).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 431.—SUNDEVALL, Oefv. K. Vet.-Akad. Förh. Stockholm, 1869, 590 (St. Bartholomew).—PELZELN, Orn. Bras., 1870, 323 (Para, Feb.).—SCLATER and SALVIN, Proc. Zool. Soc., 1871, 576

^a It is possible that some of these inland records pertain to *C. franklinii*, through erroneous identification.

(monogr.).—HARTING, *Handb. Brit. Birds*, 1872, 175.—COUES, *Check List*, 1873, no. 554.—BAILEY (H. B.), *Bull. Nutt. Orn. Club*, i, 1876, 27 (Cobbs Island, Virginia; breeding; habits).—REID, *Zoologist*, 1877, 489 (Bermudas); *Bull. U. S. Nat. Mus.*, no. 25, 1884, 266 (Bermudas, 1 spec., winter 1851-52).—TACZANOWSKI, *Proc. Zool. Soc. Lond.*, 1877, 749 (Santa Lucia, Peru); *Orn. du Pérou*, iii, 1886, 450.—MERRIAM, *Birds Connecticut*, 1877, 132.—SENNETT, *Bull. U. S. Geol. and Geog. Surv. Terr.*, iv, 1878, 64 (Corpus Christi Bay Texas).—LAWRENCE, *Proc. U. S. Nat. Mus.*, i, 1878, 142 (Barbuda), 238 (Antigua), 277 (Grenada), 462 (Guadeloupe).—SAUNDERS, *Proc. Zool. Soc. Lond.*, 1878, 194 (monogr.); 1884, 150; *Journ. Linn. Soc., Zool.*, xiv, 1878, 400 (range); ed. Yarrell's *Brit. Birds*, iii, 1884, 606, footnote; *Cat. Birds Brit. Mus.*, xxv, 1896, 194 (Progreso and Cozumel Island, Yucatan; Vera Paz and Chispam, on Pacific coast, Guatemala; Belize and Lighthouse Reef, Brit. Honduras; Manzanillo, Colima; St. Christopher, Antigua, Guadeloupe, St. Vincent-Grenadines, and Grenada, West Indies; Brit. Guiana; Surinam).—SCOTT, *Bull. Nutt. Orn. Club*, iv, 1879, 227 (Brigantine Beach, New Jersey, breeding); *Auk*, vii, 1890, 306 (Dry Tortugas, Florida, resident); viii, 1891, 362 (Jamaica).—DALGLEISH, *Bull. Nutt. Orn. Club*, v, 1880, 219 (European records).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880 (*Cat. N. Am. Birds*), 207; *Nom. N. Am. Birds*, 1881, no. 673.—CORY, *Birds Bahama Is.*, 1880, 208; *Birds Haiti and San Dom.*, 1885, 177; *Auk*, v, 1888, 75 (West Indian localities and references); vii, 1891, 46 (Antigua), 48 (Guadeloupe); 1892, 42 (Maraguna and Watling islands, Bahamas); *Birds West Ind.*, 1889, 276; *Cat. West Ind. Birds*, 1892, 82 (Abaco, New Providence, Andros, Watling, Maraguna and Inagua islands, Bahamas; Cuba; Jamaica; Haiti; Porto Rico; St. Croix; St. Bartholomew; Barbados; Antigua; Guadeloupe; Grenada; Grenadines).—MAYNARD, *Birds E. N. Am.*, 1881, 485.—MEARNS, *Bull. Essex Inst.*, xiii, 1881, 86 (Cornwall and Cold Spring, Hudson River, New York).—NEHRING, *Bull. Nutt. Orn. Club*, vii, 1882, 225 (Galveston Bay, etc., Texas, breeding).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 254.—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, and 2d ed., 1895, no. 58; 3rd ed., 1910, p. 40.—FERRARI-PEREZ, *Proc. U. S. Nat. Mus.*, ix, 1886, 179 (Vera Cruz).—WELLS, *List Birds Grenada*, 1886, 11; *Proc. U. S. Nat. Mus.*, ix, 1887, 631 (Grenada, breeding; habits).—MORRIS, *Auk*, v, 1888, 107 (near Springfield, Massachusetts, Oct. 1, 1887).—PINDAR, *Auk*, vi, 1889, 311 (Fulton Co., Kentucky, Jan. 8, 1887).—FELDEN, *Ibis*, 1889, 502 (Barbados; breeds round Grenada).—SHICK, *Auk*, vii, 1890, 326 (Seven Mile Beach, New Jersey, breeding).—NORTROP, *Auk*, viii, 1891, 80 (Andros Island, Bahamas).—RHODES, *Proc. Ac. Nat. Sci. Phila.*, 1892, 101 (Corpus Christi, Texas, breeding).—HARTERT, *Ibis*, 1893, 311 (Aruba; Curaçao; Bonaire); *Novit. Zool.*, ix, 1902, 309 (Aruba; Curaçao; Bonaire).—MACKAY, *Auk*, x, 1893, 333 (Muskegat and Tuckernuck islands, Massachusetts, breeding).—FIELD, *Auk*, xi, 1894, 120 (Jamaica).—CHAPMAN, *Bull. Am. Mus. N. H.*, vi, 1894, 85 (Trinidad).—ROBINSON, *Proc. U. S. Nat. Mus.*, xviii, 1895, 653 (Margarita Island, Venezuela, summer).—COOKE, *Birds Col.*, 1897, 51 (Sloanes Lake, near Denver, 1 spec., Dec., 1889); *Bull.* 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 51, fig. 25 (range and migration).—BEYER, *Proc. Louis. Soc. Nat. for 1897-99* (1900), 85 (coast Louisiana, breeding; n. and n. w. Louisiana, on inland bayous).—ROBINSON and RICHMOND, *Proc. U. S. Nat. Mus.*, xxiv, 1901, 164 (La Guaira, Venezuela, summer).—BREWSTER, *Bull. Mus. Comp. Zool.*, xli, no. 1, 1902, 22 (San Jose del Cabo, Lower California, Sept. 6, Nov. 9).—SALVIN and GODMAN, *Biol. Centr.-Am., Aves*, iii, 1903, 421.—BRAISLIN, *Auk*, xxii, 1905, 168 (Rockaway Beach, Long Island; still breeding?).—BEEBE, *Auk*, xxiii, 1906, 454, pl. 9 (molts).—BERLEPSCH, *Novit.*

- Zool., xv, 1908, 310 (Surinam; Brit. Guiana; n. Brazil).—BARRETT, Auk, xxix, 1912, 99 (Marshfield, Massachusetts, May 30 and July 29, 30, 1911).—BROOKS (W. S.), Auk, xxix, 1912, 531 (Manomet Point, Massachusetts, abundant in August, 1912).—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 139 (Douglas Co., Kansas, 1888, 1901, 1905, 1906, 1911; 5 spec.).—JEWELL, Auk, xxx, 1913, 423 (near Colon, Panama, Dec.).—WETMORE, Bull. 326 U. S. Dept. Agric., 1916, 45 (Porto Rico, Vieques, and Culebra; breeding? food).
- [*Larus*] *atricilla* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcvi, 243.—GRAY, Gen. Birds, iii, 1846, 654.—WILLIS, An. Rep. Smithsonian Inst. for 1858 (1859), 286 (Nova Scotia, rare).—NEWTON (A. and E.), Handb. Jamaica, 1881, 117.—RIDGWAY, Man. N. Am. Birds, 1887, 35.
- Larus atricilla atricilla* NOBLE, Bull. Mus. Comp. Zool., ix, Aug., 1916, 367 (Guadeloupe, Aug., Sept.).
- Larus* (*Chroicocephalus*) *atricilla* COUES, Birds Northwest, 1874, 650.
- [*Larus*] (*Chroicocephalus*) *atricilla* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).
- Gavia atricilla* MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 240; Brit. Birds, v, 1852, 585.
- [*Gavia*] *atricilla* BLASIUS, Journ. für Orn., 1865, 378.
- [*Chroicocephalus*] *atricilla* BRUCH, Journ. für Orn., 1853, 106.—LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98 (Porto Rico).
- [*Chroicocephalus*] *atricilla* GUNDLACH, Journ. für Orn., 1861, 348.
- Chroicocephalus atricilla* CABANIS, Journ. für Orn., 1857, 235 (Cuba).—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 850; Ann. Lyc. N. Y., viii, 1864, 103 (Sombrero); viii, 1867, 299 (vicinity New York City); Mem. Bost. Soc. N. H., ii, 1874, 317 (Mazatlan, Sinaloa); Bull. U. S. Nat. Mus., no. 4, 1876, 51 (Juchitan, Ventosa, and San Mateo, Oaxaca, Aug.-Feb.).—BAIRD, Cat. N. Am. Birds, 1859, no. 667; Rep. U. S. and Mex. Bound. Surv., ii, pt. ii, 1859, 27 (Brazos, Texas).—SOLATER and SALVIN, Ibis, 1859, 233 (Belize, Brit. Honduras, breeding).—WHEATON, Ohio Agric. Rep., 1860, no. 268 (s. Ohio).—GUNDLACH, Journ. für Orn., 1862, 94 (Cuba); 1874, 314 (Porto Rico); 1875, 385 (Cuba; habits); 1878, 162, 191 (Porto Rico); Orn. Cubana, 1876, 306; Anal. Soc. Esp. Hist. Nat., vii, 1878, 408 (Porto Rico).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 309 (monogr.); Check List, 2d ed., 1882, no. 786.—SOLATER, Proc. Zool. Soc. Lond., 1864, 179 (near City of Mexico).—SALVIN, Ibis, 1864, 388 (Chiapam, Guatemala; both coasts Central America).—DRESSER, Ibis, 1866, 44 (Galveston, Texas).—ZELEDÓN, Cat. Aves de Costa Rica, 1882, 36.—STEARNS and COUES, New England Bird Life, ii, 1883, 351.—STAHL, Ornith., vol. 3, 1887, 453 (Porto Rico).
- [*Chroicocephalus*] *atricilla* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).—COUES, Key N. Am. Birds, 2d ed., 1884, 750.
- Chroicocephalus atricilla* NEWTON (A. and E.), Ibis, 1859, 371 (near St. Croix and St. Thomas, Greater Antilles).—COUES, Proc. Ac. Nat. Sci. Phila., 1866, 99 (Colorado River, etc., Arizona); 1871, 40 (Fort Macon, North Carolina).—ALLEN, Bull. Mus. Comp. Zool., ii, 1871, 366 (e. Florida).—MERRILL, Proc. U. S. Nat. Mus., i, 1878, 172 (Fort Brown, Texas, breeding near coast and on prairies).
- Chroicocephalus atricilla* VERRILL, Proc. Essex Inst., iii, 1862, 159 (coast of Maine, resident; a few breeding on islands).
- Larus* (*Chroicocephalus*) *atricilla* COUES, Birds Northwest, 1874, 650 (monogr.).
- Xema atricilla* BOIE, Isis, 1822, 563.—GOULD, Birds Europe, v, 1837, pl. 426 and text.—BONAPARTE, Geog. and Comp. List, 1838, 62.—GRAY, List Birds Brit. Mus., Anseres, 1844, 437.—GOSSE, Birds Jamaica, 1847, 437.—JARDINE, Contr. Orn., 1849, 86 (Bermudas, 1 spec.).—HURDIS, Jardine's Contr. Orn., 1850, 13 (Bermudas?).—ALBRECHT, Journ. für Orn., 1862, 207 (Jamaica?).

- X[ema] atricilla* CABANIS, in Schomburgk's Reis. Brit. Guiana, iii, 1848, 761.
Larus ridibundus (not of Linnæus) WILSON, Am. Orn., ix, 1814, 89, pl. 74, fig. 4.—
 BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 358, footnote.—LÉOTAUD, Ois. Trinidad, 1866, 532.
L[arus] ridibundus BONAPARTE, Obs. Nom. Wilson's Am. Orn., 1826, [213].
Larus plumbeiceps (not of Temminck) BREHM, Lehrb., 1824, 722, part.
Xema wilsonii BOLE, Isis, 1828, 358 (St. Croix, Greater Antilles).
Larus atricapillus [lapsus?] ABBOTT, Proc. Bost. Soc. N. H., i, 1842, 61.
[Atricilla] macroptera BONAPARTE, Naumannia, 1854, 212 (South America; *nomen nudum*).
[Atricilla] minor BONAPARTE, Naumannia, 1854, 212 (Antilles; *nomen nudum*).
[Atricilla] catesbei BONAPARTE, Naumannia, 1854, 212 (w. North America; *nomen nudum*); Compt. Rend., xlii, 1856, 771.
Atricilla catesbei LOOHE, Expl. Sci. Algér., Ois., ii, 1867, 189.
[Atricilla] catesbyi BRUCH, Journ. für Orn., 1855, 287 ("Wärmere Nordamerika").—
 HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 359.
[Larus (Atricilla)] megalopterus BRUCH, Journ. für Orn., 1855, 287 (Peru; Mexico).
Larus atricilla megalopterus NOBLE, Bull. Mus. Comp. Zool., lx, Aug., 1916, 367
 in text (coast U. S.; crit.).
[Larus (Atricilla)] micropterus BRUCH, Journ. für Orn., 1855, 288 (s. parts of North America).

CHROICOCEPHALUS FRANKLINII (Swainson and Richardson).

FRANKLIN'S GULL.

Adults in summer (sexes alike).—Head and upper portion of neck plain slate-blackish or dusky purplish gray, more slaty anteriorly; an elongated white spot on each eyelid; lower neck (all round), entire under parts, lower rump, and upper tail-coverts immaculate white, the neck and under parts more or less deeply suffused with rosine pink, especially in living or recently killed specimens; back, scapulars, wings, and upper part of rump uniform neutral gray, the tertials and secondaries broadly tipped with white; five outer primaries with a subterminal space of black, varying in extent from about 50 mm. on the second (from outside) to about 12.5 mm. on the fifth, and tipped with white, these white tips varying in extent from about 38 mm. on the outermost to less than 12 mm. on the rest, the gray of basal portion on all becoming white or nearly so distally, next to the black subterminal area, the shafts white except within the latter; remaining (proximal) primaries lighter gray, broadly, but not abruptly, tipped with white, the sixth (from outside) sometimes with a subterminal bar or spot of black; tail white, the four to six middle rectrices tinged with pale gray, especially the middle pair; bill deep red with a more or less distinct subterminal band of darker red; iris dark brown; naked orbital ring, legs, and feet, deep red.

Adults in winter.—Similar to summer adults but head and whole neck white, the occipital, auricular, and orbital regions dusky grayish; bill and feet darker red, the former tipped with orange-reddish.

Young.—Pileum and sides of head (except forehead and lores), back and scapulars grayish brown, the longer scapulars margined terminally with pale grayish buff; wing-coverts gray, more or less tinged with brown; secondaries dusky edged with pale gray and broadly tipped with white; primaries dusky, the proximal ones more grayish, all rather broadly tipped with white; tail pale gray or grayish white with a broad subterminal band of blackish; central portion of rump pale gray, the lateral and posterior portions, together with upper tail-coverts and entire under parts, lores, forehead, and eyelids white; bill brownish, the tip dusky; legs and feet brownish (in dried skins).

Adult male.—Wing, 280–295 (289.6); tail, 97–109 (103.9); exposed culmen, 30–34 (32.6); tarsus, 38–42.5 (40.8); middle toe, 31.5–33 (32.4).^a

Adult female.—Wing, 270–293 (282); tail, 94–105 (99.7); exposed culmen, 30–34.5 (32.5); tarsus, 39–41 (39.9); middle toe, 31.5–34 (32.2).^b

Breeding in middle districts of the United States and Canada, between the Mississippi River and Rocky Mountains, from Iowa (formerly, Spirit Lake, in 1890 to 1893) and South Dakota (Brookings; Petrodie; Fort Sisseton) northward through North Dakota (Turtle Mountain; Devils Lake), Minnesota (Becker County; Heron Lake; Marsh Lake) and Manitoba (Saskatchewan River; Red River Valley; Lake Winnipegosis; Lake Manitoba; Selkirk; Winnipeg) to Saskatchewan (Quill Lake; Lake of the Narrows; near Crane Lake; Lake Winnipegosis; Cumberland House?; Osler?; near Edmonton?) and Alberta (Many Island Lake; Flagstaff), migrants or stragglers occurring, casually or accidentally, in Keewatin (Hayes River), Ontario (Hamilton, April, Oct.), Pennsylvania (near Philadelphia, Oct. 22, 1911), Virginia (Blacksburg, Oct. 24, 1898), Ohio (Licking Reserve, Oct. 15, 1906), Michigan (near Holland, April 28, 1897), Colorado (Loveland; near Denver), Utah (Great Salt Lake, June 2, 1902, and in 1906), and California (Hyperion, Los Angeles County, Nov. 22, 1913, Oct. 17, 1914, Nov. 24, 1914); southward during migration through Wisconsin (Milwaukee, 1 specimen, in 1850; Mendota, April 23, 1911; mouth of Fox River, Oct. 22, 1884; West Depere, Oct. 22, 1884; Lake Koshkonong, Sept. to Oct. 29, 1871), Illinois (Lake Michigan, near Chicago; Liter, April 21, 1882; Warsaw, May, 1875), Iowa (Keokuk, April 6, 1902; Wall Lake, Apr. 10 to June 27, 1900), Nebraska (Lincoln, Apr. 10, 1899, Nov. 17, 1900; Alda, Apr. 3, 1884; Badger, Mar. 30 to Apr., and Nov. 12, 1899), Kansas (Onaga, May 11, 1910; Clay Center, June 6, 1909; Hudson, June 9, 1907; Lawrence, Nov. 1, 1905), Missouri (Monteer, Apr. 20, 1909; Nishna Lake

^a Five specimens.

^b Four specimens.

May 15, 1909) and Texas (Fort Stockton, Apr. 24; Kerrville, Apr. 26, 1909, May 17, 1910; Aransas Bay, June; Corpus Christi, Nov. 3-7 and June, 1909), Mexico (near City of Mexico; Laguna de Baltazar, Puebla, Sept.; Zacatecas, Aug.; Mazatlán, Sinaloa, Dec.; Progreso, Yucatan, fall), Guatemala (Chiapám, Jan.; Champerico, May 30), Costa Rica (Puerto Limón), Panamá, Galápagos Archipelago (Albemarle, Chatham, and Narborough islands, Feb., Mar.) and Peru (Chorillos; Callao; Payta, Jan.; San Lorenzo; Iquique, winter), to Chile (Coquimbo Bay, Nov., Jan.; Valparaiso Bay, Feb.); accidental in St. Bartholomew, Lesser Antilles, and in Hawaiian Islands (Maui).

Larus atricilla (not of Linnæus) SABINE, App. Franklin's Polar Sea, 1823, 695.

Larus franklinii RICHARDSON, in Swainson and Richardson, Fauna Bor.-Am., ii, 1831, 424, pl. 71 (Saskatchewan River, Manitoba).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 293.—AUDUBON, Orn. Biog., v, 1839, 323; Synopsis, 1839, 325; Birds Am., 8vo ed., vii, 1844, 145.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 310 (monogr.).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 59.—SETON, Auk, iii, 1886, 147 (Red River Valley, Lake Winnepegosis, Lake Manitoba, and Selkirk, w. Manitoba, breeding).—FERRARI-PEREZ, Proc. U. S. Nat. Mus., ix, 1886, 179 (Puebla, Mexico).—CORY, Auk, v, 1888, 75 (St. Bartholomew, Greater Antilles; references); Birds West Ind., 1889, 276 (St. Bartholomew); Cat. West Ind. Birds, 1892, 82.—PINDAR, Auk, vi, 1889, 311 (Fulton Co., Kentucky, in winter).—REODS, Proc. Ac. Nat. Sci. Phila., 1892, 101 (Corpus Christi Bay, Texas, June; breeding?).—COOKE, Birds Col., 1897, 51 (Loveland and near Denver; 2 specs.).—BEYER, Proc. Louis. Soc. Nat. for 1897-99 (1900), 86 (coast Louisiana west of Mississippi River, winter resident).—ROBERTS, Auk, xvii, 1900, 272-283, pls. 9-11 (breeding habits in s. Minnesota); Wilcox's Hist. Becker Co., Minn., 1907, 161 (breeding).—SMYTH, Auk, xix, 1902, 74 (Blacksburg, Montgomery Co., Virginia, 1 spec., Oct. 24, 1898).—HENSLEY, Birds Hawaiian Is., 1902, 127 (Maui, 1 spec.).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 237 (Narborough Island, Galapagos, 1 spec., March).—JONES, Wilson Bull., n. s., xiv, 1907, 20 (Licking Reserve, Ohio, Oct. 15, 1906).

[*Larus*] *franklinii* COUES, Key N. Am. Birds, 1872, 316.

[*Larus*] *franklinii* RIDGWAY, Man. N. Am. Birds, 1887, 36.—BRYAN, Key Birds Hawaiian Group, 1901, 7 (Maui, 1 spec.).

Chroicocephalus franklinii LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 851; Mem. Bost. Soc. N. H., ii, 1874, 317 (Mazatlan, Sinaloa, Dec.).—BAIRD, Cat. N. Am. Birds, 1859, no. 668.

[*Chroicocephalus*] *franklinii* RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).

Larus franklini SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 36.—NEWTON, Proc. Zool. Soc. Lond., 1871, 57, pl. 4, fig. 4 (egg).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 577 (monogr.).—COUES, Check List, 1873, no. 555; Bull. U. S. Geol. and Geog. Surv. Terr., iv, 1878, 655 (Turtle Mountain, North Dakota, breeding).—TACZANOWSKI, Proc. Zool. Soc. Lond., 1874, 562 (Chorillos, Peru); Orn. du Pérou, iii, 1886, 451.—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 195 (monogr.); 1882, 524 (Coquimbo Bay, Chile, Nov.; Payta, Peru, Jan.); Cat. Birds Brit. Mus., xxv, 1896, 191 (Progreso, Yucatan, autumn; Zacatecas, Aug., near City of Mexico; Champerico, Guatemala, May 30; Chiapam, Guatemala, Jan.; Payta, Peru, Jan.; Callao Bay, Peru,

- Jan., April; Iquique, Peru, winter; Coquimbo, Chile, Nov.; Valparaiso, Chile; etc.).—RIDGWAY, Bull. Nutt. Orn. Club, v, 1880, 32 (near Warsaw, Illinois, May); Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 674.—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 469 (Winnipeg, Selkirk Settlement, Red River Settlement, etc., Manitoba, breeding).—BERLERSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Chorillos and Callao, Peru).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 419 (City of Mexico; Zacatecas; Laguna de Baltazar, Puebla; Mazatlan; Progreso, Yucatan; Chiapam and Champerico, Guatemala; Panama; Pacific coast South America to Chile; St. Bartholomew).—NICOLL, Ibis, 1904, 50 (Valparaiso Bay, Chile, Feb., abundant).—CARRIKER, Ann. Carnegie Mus., vi, 1910, 415 (Puerto Limon, Costa Rica).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, p. 40.—LACEY, Auk, xxviii, 1911, 203 (Kerrville, Texas, April, May).—STONE, Auk, xxix, 1912, 99 (Philadelphia, Pennsylvania, 1 spec., Oct. 22, 1911.).—CONOVER, Auk, xxix, 1912, 388 (Lake Mendota, Wisconsin, April 23, 1911).—SMYTH, Auk, xxix, 1912, 510 (Montgomery Co., Virginia, 1 spec., Oct. 22, 1898).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. 1, 1913, 42 (Albemarle, Chatham, and Narborough islands, Galapagos, Feb., March).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 23 (Hyperion, Los Angeles Co., California, 3 specs., Nov. 22, 1913, Oct. 17, 1914, Nov. 24, 1914).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Survey), 1915, 54, figs. 26, 27 (range and migrations).
- L[arus] franklini* GRAY, Gen. Birds, iii, 1846, 654.—NELSON, Bull. Essex Inst., viii, 1876, 146 (Lake Michigan, n. e. Illinois, rare visitant; Milwaukee, Wisconsin, 1 spec., 1850).—MACFARLANE, Ibis, 1887, 207 (San Lorenzo, Peru).
- [Larus] franklini* GRAY, Hand-list, iii, 1871, 115, no. 10990.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.—SHARPE, Hand-list, i, 1899, 140.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 57.
- [Larus]? franklini* CORY, List Birds West Ind., revised ed., 1886, 33 (Antilles?).
- Larus (Chroicocephalus) franklini* COUES, Birds Northwest, 1874, 653.
- Chroicocephalus franklini* BLAKISTON, Ibis, 1862, 10 (Saskatchewan Plains, May).—COUES, Check List, 2d ed., 1882, no. 787.—WILLARD, Auk, ii, 1885, 222 (mouth of Fox River, Wisconsin, Oct. 22, 1884).
- C[throicocephalus] franklini* COUES, Key N. Am. Birds, 2d ed., 1884, 751.
- Chroicocephalus franklini* SNOW, Birds Kansas, 1873, 12.
- Xema franklini* BONAPARTE, Geog. and Comp. List, 1838, 62.—BOIE, Isis, 1844, 194.—GRAY, List Birds Brit. Mus., Anseres, 1844, 172.
- G[avia] franklini* BLASIUS, Journ. für Orn., 1865, 371 (crit.).
- [Gavia] franklini* BONAPARTE, Compt. Rend., xlii, 1856, 771.
- [Melanolarus] franklini* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 350.
- Larus pipizcan* WAGLER, Isis, 1831, 515 (Mexico; based on *Pipizcan* Hernandez. Thes., p. 32, cap. 89).
- Xema pipizcan* BOIE, Isis, 1844, 194.
- L[arus] pipizcan* GRAY, Gen. Birds, iii, 1846, 654.
- [Gavia] pipizcan* BONAPARTE, Compt. Rend., xlii, 1856, 771.
- [Larus] cucullatus* REICHENBACH, Natatores, 1848, pl. 23, fig. 296 (Mexico; ex Lichtenstein, manuscript).
- [Chroicocephalus] cucullatus* BRUCH, Journ. für Orn., 1853, 104; 1855, 290.—LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98 (Mexico).
- Chroicocephalus cucullatus* LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ii, 1858, 851; ed. 1860 (Birds N. Am.), 851, pl. 93, fig. 1.—BAIRD, Cat. N. Am. Birds, 1859, no. 669.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 309 (monogr.). Ibis, 1864, 388 (Chiapam, Guatemala; crit.).—SALVIN, Ibis, 1866, 198 (Pacific coast Guatemala).

[*Chroicocephalus*] *cucullatus* SUCKLEY, in Cooper and Suckley, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 277, in text (Panama).

[*Gavia*] *cucullata* BONAPARTE, Compt. Rend., xlii, 1856, 771.

[*Chroicocephalus*] *kitlitzii* BRUCH, Journ. für Orn., 1853, 104 (s. Chilik based on a drawing).

[*Gavia*] *kitlitzii* BONAPARTE, Compt. Rend., xlii, 1856, 771.

[*Chroicocephalus*] *schimperi* BRUCH, Journ. für Orn., 1853, 104 ("New Zealand").

[?] [*Chroicocephalus*] *serranus* (not *Larus serranus* Tschudi) BRUCH, Journ. für Orn., 1853, 106 (Peru).

Larus cinereo-caudatus PHILIPPI and LANDBECK, Wiegmann's Archiv für Naturg., 1861, i, 293.

CHROICOCEPHALUS PHILADELPHIA (Ord).

BONAPARTE'S GULL.

Adults in summer (sexes alike).—Head and upper part of neck dark gray (between dark and dusky purplish gray); an elongated white spot on each eyelid; lower neck (all round), entire under parts, including axillars and under wing-coverts, lateral and lower portions of rump, upper tail-coverts, tail, edge of wing, alula, primary coverts and greater portion of distal primaries immaculate white, the neck and under parts often suffused with delicate eosine pink (especially in life and more recently killed specimens); back, scapulars, greater part of wings (except distal primaries) and upper and median portions of rump, uniform delicate pale neutral gray; outer web of outermost primary and terminal portion of first, second and third (counting from outside) black; fourth primary similar to third but inner web pale neutral gray; fifth and sixth primaries pale neutral gray with a large subterminal space of black and tipped with white (the third and fourth also with a small apical spot of white); remaining (proximal) primaries pale neutral gray, without white tips but with a subterminal spot (usually, or mostly, on inner web only) of black; bill black; interior of mouth, together with legs and feet, clear, rich orange-red or orange-vermilion; iris dark brown; naked orbital ring black.

Adults in winter.—Similar to summer adults, but head and whole neck white, the occiput tinged with gray and the auricular region with a spot of dusky grayish; legs and feet paler red or flesh color.

Young.—Lateral and under portions of head and neck, entire under parts, upper tail-coverts, and basal three-fourths (approximately) of tail immaculate white; a dusky spot on auricular region; crown, occiput, and upper back grayish brown; scapulars and posterior interscapulars (lower back) grayish brown tipped with pale buff; central area of lesser wing-covert region dusky grayish brown; rest of wing-coverts, edges of secondaries, greater portion of proximal primaries, and upper and median portions of rump light neutral gray; distal portion of tail (forming a well-defined broad band) black

or dusky, the tip, narrowly, whitish; outermost primary with outer web and a stripe on inner web next to shaft, together with terminal portion, black, the remaining portion white; second and third primaries (from outside) similar, but the white more and more restricted; fourth primary grayish white on both webs, the subterminal portion black for more than 25 mm.), the tip white; remaining (proximal primaries pale neutral gray; bill dusky; legs and feet pale brownish (in dried skins).

Immature (young in first winter?).—Similar to winter adults but central lesser wing-coverts dusky, tail with a subterminal band of dusky, and primaries as in first plumage.

Adult male.—Wing, 257–273 (266.2); tail, 99–109.5 (103.8); exposed culmen, 28–33 (31.2); tarsus, 32–36 (33.8); middle toe, 28–32 (30.3).^a

Adult female.—Wing, 247–274 (259.7); tail, 97–108 (101); exposed culmen, 28.5–32 (30.1); tarsus, 33–35.5 (34); middle toe, 28.5–32 (30.5).^b

Breeding in Alaska (Fort Yukon; Nulato), Yukon (upper Pelly River), northern Mackenzie (vicinity of Fort Anderson), and in extreme northwestern corner of British Columbia (Atlin);^c migrating southward over practically the whole of North America to extreme southern United States and northern Mexico (La Paz, etc., Lower California; Mazatlán, Sinaloa, March, Dec.; La Barca and Guadalajara, Jalisco; Guanajuato; Gulf of Progreso, Yucatán); wintering northward to South Carolina (more rarely to Long Island or even, very rarely, to Maine) and southern Washington; casual or accidental in Bermudas (Jan. 27 and Dec. 15, 1849, and Jan., 1876), western Peru (Tambo Valley), Hawaiian Islands (Poli-hula Lake, Kauai, Mar. 15, 1891), and in western Europe (England, Scotland, Cornwall, Ireland, and Helgoland).

Sterna philadelphia ORD, in Guthrie's Geography, 2d Am. ed., ii, 1815, 319 (near Philadelphia, Pennsylvania).

Chroicocephalus philadelphia LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 852; Mem. Bost. Soc. N. H., ii, 1874, 317 (Mazatlan, Sinaloa, Mar. 27, 1868).—BAIRD, Cat. N. Am. Birds, 1859, no. 670.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 276 (Puget Sound, Washington, resident).—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 247 (Gulf of St. Lawrence; habits); 1862, 310 (monogr.); Check List, 2d ed., 1882, no. 788.—BLAKISTON, Ibis, 1862, 10 (Hudson Bay, Aug. 12).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 305 (Fort Yukon, Sitka, etc., Alaska).—NEWTON, Proc. Zool. Soc. Lond., 1871, 57, pl. 4, fig. 6 (egg).—ALLEN, Bull. Mus. Comp.

^a Nine specimens.

^b Ten specimens.

^c Professor Cooke (Distribution and Migration of North American Gulls and their Allies, 1915, 57, 58) discredits alleged breeding records for other localities, among them places in southern British Columbia, Alberta, Manitoba, southern Keewatin North Dakota, Minnesota, and Michigan.

- Zool., ii, 1871, 366 (e. Florida, in winter); iii, 1872, 183 (Great Salt Lake, Utah).—GOULD, Birds Great Brit., v, 1873, pl. 65 and text.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 241 (Point de Monts, Quebec, summer resident).
- [*Chroicocephalus philadelphia* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—RIDGWAY, Ann. Lyc. N. Y., x, 1874, 391 (Illinois).—COUES, Key N. Am. Birds, 2d ed., 1884, 751.
- [*Chroicocephalus philadelphia* GRAY, Hand-List, iii, 1871, 115, no. 10999.
- Chroicocephalus philadelphia* COUES, Proc. Ac. Nat. Sci. Phila., 1871, 41 (Fort Macon, North Carolina).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 183 (Great Salt Lake, Utah).—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 13 (Ogden, Utah).—RIDGWAY, Orn. 40th Parallel, 1877, 639 (San Francisco Bay, Feb.); Field and Forest, ii, 1877, 210 (Boulder, Colorado, Dec.).
- [*Chroicocephalus philadelphiae* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, p. 359.
- Larus [Chroicocephalus] philadelphia* COUES, Birds Northwest, 1874, 655.
- Larus philadelphia* GRAY, Cat. Brit. Birds, 1863, 235.—HARTING, Handb. Brit. Birds, 1872, 172; Proc. Linn. Soc., 1890, 3; Zoologist, 1891, 35 (Cornwall, England).—COUES, Check List, 1873, no. 556.—REID, Zoologist, 1877, 489 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 267 (Bermudas; 3 specs., Jan. 27 and Dec. 15, 1849, and Jan., 1876).—MERRIAM, Birds Connecticut, 1877, 132.—SAUNDERS, Proc. Zool. Soc. Lond., 1884, 150 (Loch Lomond, Scotland); ed. Yarrell's Brit. Birds, iii, 1884, 584; Man. Brit. Birds, 1889, 645; Cat. Birds Brit. Mus., xxv, 1896, 185.—RODD, Birds Cornwall, 1880, 168.—CORY, Birds Bahama Is., 1880, 209; Cat. West Ind. Birds, 1892, 125 (Bahamas).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 219 (6 British record, 1 Helgoland record).—NELSON, Rep. N. H. Coll. Alaska, 1887, 55 (St. Michaels, mouth of Yukon River, Sitka, etc.; breeding near Nulato and Fort Yukon)—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 260.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 307.—GOSS, Birds Kansas, 2d ed., 1886, 2.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 60; 3rd. ed. 1910, p. 40.—SEYON, Auk, iii, 1886, 147 (w. Manitoba, breeding).—TURNER, Contr. N. H. Alaska, 1886, 126 (mouth of Kuskokwim River, June).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 90 (Kowak River, Alaska, July 1); Proc. U. S. Nat. Mus., xiii, 1890, 187 (La Paz, Lower California, Mar. 14; upper Gulf of California, Mar. 27).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 469 (Swan Creek and prairie region, w. Manitoba, breeding).—TRISTRAM, Cat. Coll. Birds, 1891, 8 (Vancouver Island).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 418 (Anderson River, Mackenzie, breeding).—HARTERT, Kat. Vogelsamml. Senckenb., 1891, 240.—COOKE, Auk, xi, 1894, 182 (Denver? and Colorado Springs, Colorado); Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 57, fig. 28 (range and migrations).—GRINNELL (J.), Pub. no. 1, Pasadena Ac. Sci., 1897, 24 (San Pedro Harbor, California, May 11); Pacific Coast Avif., no. 11, 1915, 23 (common migrant from Monterey Bay southward).—LOOMIS, Auk, xviii, 1901, 104 (Mazatlan, Dec.).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 22 (La Paz, etc., s. Lower California, winter to March).—HENSHAW, Birds Hawaiian Is., 1902, 127 (Poli-Hula Lake, Kauai, 1 spec., Mar. 15, 1891).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 418 (Mazatlan; Guanajuato; Guadalajara, Jalisco).—COLE, Bull. Mus. Comp. Zool., 1, 1906, 145 (Gulf of Progreso, Yucatan, large flocks).—KERMODE, Provincial Mus. Victoria, 1909, 25 (British Columbia; abundant resident, breeding in interior).—JONES, Wilson Bull., xxi, 1909, 69 (Cedar Point, etc., n. Ohio, regular migrant; habits).

[*Larus philadelphia* COUES, Key N. Am. Birds, 1872, 316.—SHARPE, Hand-list, i, 1899, 139.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 57 (Vancouver Island).

[*Larus philadelphia* RIDGWAY, Man. N. Am. Birds, 1887, 36.

Larus philadelphia SAUNDERS, Proc. Zool. Soc. Lond., 1878, 206 (monogr. Journ. Linn. Soc., Zool., xiv, 1878, 399 (range).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 207; Nom. N. Am. Birds, 1881, no. 675.—BELDING, Proc. U. S. Nat. Mus., v, 1883, 545 (Cape San Lucas district, Lower California).—NELSON, Cruise 'Corwin' in 1881 (1883), 108 (St. Michaels, etc., Alaska).—MCLENNAN, Cruise 'Corwin,' 1884, 124 (Kowak River, Alaska, summer resident); Cruise 'Corwin' in 1885 (1887), 79 (mouth of Neotak River, Alaska).—STEARNS, Proc. U. S. Nat. Mus., vi, 1884, 122 (Labrador, in migration).—HENSHAW, Auk, ii, 1885, 232 (San Diego, California, Nov., Dec.).—EVERMANN, Auk, iii, 1886, 89 (Ventura Co., California, spring, fall, and winter).

[*Larus philadelphia* SAUNDERS, Journ. Linn. Soc., Zool., xiv, 1878, 399 (range).

Larus philadelphicus TURNBULL, Birds E. Penn. and N. J., 1869, 38.

Larus marginatus RAFINESQUE, Kentucky Gazette, i, no. 8, Feb. 21, 1822, p. 3, col. 5 (near Harrodsburg, Kentucky).

Larus minutus (not of Pallas) SABINE (J.), App. Franklin's Polar Sea, 1823, 696.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 426.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 289.

Larus capistratus (not of Temminck) BONAPARTE, Specch. Comp., 1827, 69; Ann. Lyc. N. Y., ii, 1828, 358.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 290 (Delaware River and Chesapeake Bay).

Larus melanorhynchus TEMMINCK, Pl. Col., v, liv. 85, July, 1830, pl. 504 and text ('Chile').

[*Larus melanorhynchus* GRAY, Gen. Birds, iii, 1846, 654.

Larus bonapartii SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 425, pl. 72 (Fur Countries; Great Slave Lake, Mackenzie).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 294.—AUDUBON, Orn. Biog., iv, 1838, 212, pl. 324; Synopsis, 1839, 323; Birds Am., 8vo ed., vii, 1844, 131, pl. 442.—GIRAUD, Birds Long Is., 1844, 359.—THOMPSON, Ann. and Mag. N. H., 1848, 192 (near Belfast, Ireland); Birds Ireland, iii, 1851, 317.—HURNE, Jardine's Contr. Orn., 1850, 36 (Bermudas, 1 spec., Jan., 1849).—YARRELL, Brit. Birds, 2d Suppl., 1856, 55.—BLAND, An. Rep. Smithsonian. Inst. for 1858 (1859), 289 (Bermudas).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1868, 178 (Tambo Valley, w. Peru; crit.), 570 (w. Peru).—GRAY (R.), Brit. West Scotl., 1871, 473.—GÄTKE, Vogelw. Helgoland, 1891, 577.

[*Larus bonapartii* MARTENS, Journ. für Orn., 1859, 222 (Bermudas).

[*Larus bonapartii* D'HAMONVILLE, Cat. Ois. Eur., 1876, 62 (England).

Xema bonapartii BONAPARTE, Geog. and Comp. List, 1838, 62.—RICHARDSON, Journey Boat-Voy. Rupert's Land, i, 1851, 155, 200 (Great Slave Lake: nesting on trees).

Gavia bonapartii MACGILLIVRAY, Brit. Birds, v, 1852, 610.

[*Gavia bonapartei* BLASIUS, Journ. für Orn., 1865, 371 (crit.).

Larus bonapartei SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 41.

Larus bonapartii NEWMAN, Zoologist, vi, 1848, 2069 (Ireland).

Larus buonapartii POWYS, Zoologist, xiii, 1855, 4762, 4809 (Ireland).

[*Chroicocephalus* *bonapartii* BRUCH, Journ. für Orn., 1853, 105; 1855, 292.—LATENSTEIN, Nom. Av. Mus. Berol., 1854, 98.

Chroicocephalus bonapartii BREHM, Naumannia, 1855, 295.

[*Chroicocephalus*] *subulirostris* BRUCH, Journ. für Orn., 1853, 105 (North America, type in coll. Mainz Mus.).

[*Gavia*] *subulirostris* BONAPARTE, Naumannia, 1854, 213; Compt. Rend., xlii, 1856, 771.

Genus HYDROCOLÆUS Kaup.

Hydrocoloeus KAUP, Natürl. Syst., 1829, 113. (Type, *Larus minutus* Linnæus.)

Very small Laridæ (wing less than 225 mm.) with tarsus not longer than middle toe without claw, very slightly longer than exposed culmen, the latter about one-ninth as long as wing; primaries without black "pattern," under wing-coverts gray, and summer adults without white about eyes.

Range.—Subarctic and temperate Europe and eastward to mouth of Amur River and Sea of Okotsk. (Monotypic.)

HYDROCOLÆUS MINUTUS (Pallas).

LITTLE GULL.

Adults in summer (sexes alike).—Head and upper neck, all round, uniform black, without any white about eyes; lower neck (all round), entire under parts, lower rump, upper tail-coverts, and tail immaculate pure white; back, scapulars, wings, and upper part of rump uniform pale bluish gray (nearly gull gray, no. 8), the secondaries and primaries broadly tipped with white; outermost primary with middle portion of outer web edged with blackish; axillars grayish white; under wing-coverts gull gray, slightly darker proximally and paler toward edge of wing; under primary coverts and under surface of primaries plain deep neutral gray; bill lake red (brownish in dried skins); iris dark brown; legs and feet vermilion red (in life).

Adults in winter.—Similar to summer adults, but head and neck white, the occiput and nape nearly uniform deep neutral gray or dull slate-gray, the posterior portion of crown streaked or clouded with the same; a post-auricular spot of blackish, and eyes margined anteriorly with black; bill dusky red or dusky brown.

Young.—Forehead, lores, cheeks, under parts, upper tail-coverts and greater part of tail white; occiput, auricular region, lower part of nape, lesser and middle wing-coverts, scapulars, tertials, and terminal third (approximately) of tail, except on lateral rectrices, sooty blackish, the feathers, except on head and neck, margined terminally with pale buff or whitish; greater wing-coverts and secondaries delicate pale bluish gray; primaries with outer webs mostly blackish (more slaty basally), their inner webs mostly white, except terminally and along shafts; primary coverts black; bill blackish; legs and feet flesh color (in life).

Immature (young in first winter?).—"The gray of the crown and nape tinged with brownish; wing-coverts and long inner secondaries

[tertials] dark brown tipped with white; primaries sooty on both webs, adjoining the shafts, and white on the remainder of the inner webs; the extreme tips white, increasingly so on the inner primaries, until at the 7th the whole terminal portion is white; tail-feathers with a broad subterminal blackish band, which diminishes from the outer rectrices till lost with the increasing age of the bird. Practically the duration of the immature stage is very short, the primaries with dark undersides being assumed in the second autumn."^a

Adult male.—Wing, 213.5–219 (216.2); tail, 90–94.5 (92.2); exposed culmen, 22–24 (23); tarsus, 23.5–25.5 (24.5); middle toe, 23.5–24.5 (24).^b

Adult female.—Wing, 210–221 (215.5); tail, 86–95.5 (90.7); exposed culmen, 23–25 (24); tarsus, 23.5–24 (23.7); middle toe, 23.5–24 (23.7).^b

Breeding in subarctic and temperate Europe and Asia, from British Islands to eastern Siberia, mouth of Amur River, and Sea of Okotsk (but not in Mongolia nor China); migrating southward to shores of Mediterranean, Black, and Caspian Seas; accidental in northern India, on Faroe Islands, in Bermudas (Jan. 22 and Feb., 1849), on Long Island, New York (Fire Island, Suffolk County, Sept. 15, 1887; Rockaway Beach, May 2, 1902), and in Maine (Pine Point, near Scarborough, July 20, 1910).

[?] *Larus albus* (not of Gunnerus, 1767) SCOPOLI, Ann. I. Hist. Nat., 1769, 80.

Larus minutus PALLAS, Reise Russ. Reichs, iii, 1776, 702 (Berezof, Tobolsk, Siberia); Zoogr. Rosso-Asiat., ii, 1826, 331.—RETZIUS, Fauna Suecica, 1790, 278.—MEYER and WOLF, Taschenb., ii, 1810, 488.—TEMMINCK, Man. d'Orn., 1815, 508; 2d ed., ii, 1820, 787; pt. 4, 1840, p. 490.—MEYER, Vög. Liv-u. Esthl., 1815, 237; Taschenb., iii, 1822, 205.—LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 41.—MEISNER and SCHINZ, Vög. Schweiz, 1815, 277.—NILSSON, Orn. Suec., ii, 1817, 179.—VIEILLIOT, Nouv. Dict. d'Hist. Nat., xxi, 1818, 499.—BREHM, Lehrb., 1824, 727.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 206.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 358.—WERNER, Atlas, Palmipèdes, 1828, pl. 31.—SAVI, Orn. Tosc., iii, 1831, 68.—SELYE, Brit. Birds, ii, 1833, 484, pl. 92.—ST. HILAIRE, Expl. Morée, Zool., 1833, 55, Atlas, pl. 5.—JENYNS, Man. Brit. Vertebr., 1835, 271.—NAUMANN, Vög. Deutschl., x, 1840, 242, pl. 258; Anhang, xiii, 1847, 275.—SELYS-LONGCHAMPS, Faune Belge, 1842, 151.—YARRELL, Brit. Birds, iii, 1843, 426; 2d ed., iii, 1845, 543.—DEGLAND, Orn. Eur., ii, 1849, 330.—THOMPSON, Birds Ireland, iii, 1851, 315.—MIDDENDORFF, Reis. Sibir., Zool., 1851, 245 (Yakutsk).—KJÆRBØLLING, Danm. Fugle, 1852, 334, pl. 41; Suppl., 1854, pl. 22, figs. 1, 2.—LILLJEBORG, Naumannia, 1852, 110 (descr. eggs).—BRANDT, in Lehman's Reis. n. Buchara, 1852, 330 (Caspian Sea).—HEWITSON, Eggs Brit. Birds, ii, 1856, 490, pl. 136, fig. 1.—SCHLEGEL, Vog. Nederl., 1854, 604, pls. 355, 356; Dior. Nederl. Vog., 1861, 238; Mus. Pays-Bas, vi, no. 23, 1863 (Lari), 42.—HEUGLIN, Syst. Ueb., 1856, 70 (Egypt); Orn. N. O.-Afr., Bd. ii, pt. 2, 1873, 1409 (lower Egypt).—MEYER, Brit. Birds, vii, 1857, 118, pl. 300.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 853.—BAIRD, Cat. N. Am. Birds, 1859, no. 671.—IRBY, Ibis, 1861, 246 (Jehangir-

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 176.

^b Two specimens.

- bad, India); Orn. Straits Gibralt., 1875, 213; 2d ed., 1895, 297.—GRAY, List Brit. Birds, 1863, 235.—WRIGHT, Ibis, 1864, 152 (Malta).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 441.—DRESSER, Proc. Zool. Soc. Lond., 1869, 530 (descr. nest and eggs); Birds Europe, viii, 1871, 373, pls. 599, 599A; Ibis, 1876, 415 (Turkestan, up to 1,000 ft.).—ELWES and BUCKLEY, Ibis, 1870, 337 (Greece, Macedonia, and Bulgaria).—GRAY (R.), Birds W. Scotl., 1871, 474.—HOMER, Journ. für Orn., 1870, 438 (e. Siberia).—SUNDEVALL, Svensk. Fogl., 1872, pl. 49, fig. 1.—BROOKE, Ibis, 1873, 346 (Sardinia).—HARTING, Handb. Brit. Birds, 1872, 76.—SHELLEY, Birds Egypt, 1872, 310.—PALMÉN, Finl. Fogl., 1873, 612.—BROOKE, Ibis, 1873, 346 (Sardinia).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 206 (monogr.); Journ. Linn. Soc., xiv, 1878, 399 (range); ed. (4th) Yarrell's Brit. Birds, iii, 1884, 589; Ibis, 1884, 391 (s. w. France); 1891, 188 (Lake Leman, Switzerland); Man. Brit. Birds, 1889, 647; Cat. Birds Brit. Mus., xxv, 1896, 173.—RODD, Birds Cornwall, 1880, 167.—SEEBOHM, Ibis, 1882, 385 (Archangel, n. Russia); Hist. Brit. Birds, iii, 1885, 301.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 191.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 264.—REID, Ibis, 1885, 254 (n. w. Morocco).—MEVES and HOMER, Orn. 1886, 272 (n. w. Russia, breeding).—ALLÉON, Orn. 1886, 424 (Dobrukscha).—HARVEY-BROWN and BUCKLEY, Faun. Sutherl., etc., 1887, 231; Faun. Outer Hebrides, 1888, 145.—TART, Ibis, 1887, 395 (Duro, Portugal).—PLESKE, Mém. Ac. St. Petersb. (7), xxxvi, 1888, 57 (Turkestan).—DUTCHER, Auk, v, 1888, 171 (Fire Island, Suffolk Co., New York, Sept. 15, 1887; first genuine American record!).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 63.—LILFORD, Ibis, 1889, 348 (Cyprus).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Suppl. and Check List, 1889, 5 (no. 60.1); Check List, 2d ed., 1895, no. 60.1; 3d ed., 1910, p. 41.—GÄTKE, Vogelw. Helgoland, 1891, 578.—TAYLOR, Ibis, 1891, 473 (Alexandria, Egypt).—HARTERT, Kat. Vogelsamml. Senckenb., 1891, 240, Ibis, 1892, 520 (e. Prussia).—JÄCKEL and BLASIUS, Vög. Bayerns, 1891, 356.—CHAPMAN (A. C.), Ibis, 1894, 350 (West Jutland).—COLLETT, Nyt Mag. for Natur., Bd. xxxv, 1894, 306 (Norway).—BRAISLIN, Auk, xx, 1903, 52 (Rockaway Beach, May 2, 1902; second Long Island spec.).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 62, fig. 29 (range and migration).
- [*Larus minutus* GMELIN, Syst. Nat., i, pt. ii, 1789, 595.—LATHAM, Index Orn., ii, 1790, 813.—GRAY, Hand-list, iii, 1871, 115, no. 11001.—SHARPE, Hand-list, ii, 1899, 139.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 57 (Bridlington, Yorkshire, England).
- L[arus] minutus* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcv, 241.—GRAY, Gen. Birds, iii, 1846, 654.—RIDGWAY, Man. N. Am. Birds, 1887, 36.
- Xema minuta* BREHM, Orn. 1826, 137 (Elbe, Nov. 1824).—GRAY, List Birds Brit. Mus., Anseres, 1844, 173.
- Xema minutum* BREHM, Vög. Deutschl., 1831, 763.—BONAPARTE, Icon. Faun. Ital., Ucc., i, 1840, pl. 46, fig. 2.—FRITSCH, Vög. Eur., 1870, 466, pl. 54, figs. 2, 3.—TORRE and TSCHUSI, Orn. 1885, 561 (Dalmatia).—HARTERT, MT. Orn. Ver. Wien, 1887, 80 (near Danzig, e. Russia, formerly breeding).—KELLER, Orn. Carinthiae, 1890, 303.—BRUSINA, Orn. Croatia, 1889, 92.—FATIO and STUDER, Cat. Ois. Suisse, 1892, 62, 63.—KOENIG, Journ. für Orn., 1893, 101 (Tunis).
- Xema minutus* BOIE, Isis, 1822, 563.—GOULD, Birds Europe, v, 1837, pl. 428 and text.—BONAPARTE, Geog. and Comp. List, 1838, 62; Cat. Ucc. Eur., 1842, 78.
- Hydrocoloeus minutus* KAUF, Natürl. Syst., 1829, 113, 196.—LOCHE, Expl. Sci. Algér., Ois., ii, 1867, 194.—GOULD, Birds Great Brit., v, 1873, pl. 66 and text.—OLPHE-GALLIARD, Orn. Eur. Occid., fasc. x, 1886, 104.—SALVADORI, Ucc. Ital., 1887, 284.

- [*Hydrocoloeus*] *minutus* BONAPARTE, Compt. Rend., xlii, 1856, 771.—HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 359.
- Chroicocephalus minutus* EYTON, Cat. Brit. Birds, 1836, 54.—REICHENBACH, Av. Syst. Nat., Longipennes, 1852, p. v.—BRUCH, Journ. für Orn., 1853, 105.—BREHM, Naumannia, 1855, 295; Vogelf., 1855, 343.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 853.—BAIRD, Cat. N. Am. Birds, 1859, no. 671.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 311 (monogr.).—SALVADORI, Ucc. Sardin., 1864, 124.—SAUNDERS, Ibis, 1871, 399 (s. Spain).—TACZANOWSKI, Journ. für Orn., 1873, 111 (s. Siberia); Bull. Soc. Zool. France, 1876, 264 (s. Siberia); Ornith., 1888, 508 (Poland); Mém. Ac. St. Petersb., xxxix, 1893, 1043 (s. Siberia).—GIGLIOLI, Ibis, 1881, 218 (Italian records).—RADDE, Orn. Caucas., 1884, 483.
- [*Chroicocephalus*] *minutus* LICHTENSTEIN, Nom. Av. Mus. Berol., 1854, 98.
- Chroicocephalus minutus* SALVADORI, Faun. Ital., Ucc., 1872, 289.—GIGLIOLI, Avif. Ital., 1886, 422; i. Resoc. Avif. Ital., 1889, 638; ii. Resoc., 1890, 648; iii. Resoc., 1891, 509.
- Gavia minuta* MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 242; Brit. Birds, v, 1852, 613.—SEVERTZOV, Turkestan. Jevotnie, 1873, 70 (Turkestan, up to 1,000 ft.).
- G[avia] minuta* BLASIUS, Journ. für Orn., 1865, 371 (crit.).
- Larus atricilloides* FALCK, Reise Russl., v, 1786, 355, pl. 24 (Siberia).
- [*Larus*] *atricilloides* GMELIN, Syst. Nat., i, pt. ii, 1789, 601.—LATHAM, Index Orn., ii, 1790, 813.
- Larus d'orbignyi* AUDOUIN, Hist. Nat. de l'Egypte, 1825, pl. 9, fig. 3; Expl. Planch. Ois. Egypte, 2d ed., 1828, 341.—LESSON, Hist. Nat. Mam. et Ois., ix, 1837, 516.
- L[arus] d'orbignyi* GRAY, Gen. Birds, iii, 1846, 654.
- Larus nigrotis* LESSON, Traité d'Orn., 1831, 619 (see Pucheran, Rev. et Mus. Zool., 1850, 15, and Hartlaub, Journ. für Orn., 1855, 420).
- L[arus] nigrotis* GRAY, Gen. Birds, iii, 1846, 654.
- L[arus] pygmaeus* GRAY, Gen. Birds, iii, 1846, 654 (based on "St. Vinc. Exp. de la Morée, Ois. t. 5").

Genus BLASIPUS Bruch.

- Blasipus* BRUCH, Journ. für Orn., 1853, 108. (Type, *Larus modestus* Tschudi.)
- Blasipus* (emendation) HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 357.
- Epitelolarus* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 359. (Type, *Larus heermanni* Cassin.)

Medium-sized Laridæ (wing 312–376 mm.) with under parts plain sooty brown or deep brownish gray (white in one species), and tail mostly gray or blackish in adults; young mostly plain grayish brown in some species with feathers of upper parts terminally margined or tipped with paler brown, whitish or buffy.

Range.—Pacific coast of America (Chile to British Columbia). (Four species.)

KEY TO THE SPECIES OF BLASIPUS.^a

- a. Upper parts plain slate-gray, deep neutral gray, dark gull gray, or fuscous; under parts plain gray or white; tail plain gray, almost uniformly black with white tip, black with white bars and tip, or gray with a subterminal black band; forehead and chin white, the rest of head slaty black, or else whole head (and neck) white. (*Adults*.)

^a Prepared at my request by Mr. J. H. Riley.

b. Head with at least forehead and chin white; wing with a conspicuous white bar (across tip of secondaries).

c. Under parts, rump, and upper tail-coverts white. (Coast of Chile and Peru.)

Blasipus beloheri (extralimital).^a

cc. Under parts, rump, and upper tail-coverts gray.

d. Whole head, together with upper hindneck, white; tail black (except extreme base), tipped with white; upper tail-coverts conspicuously paler gray than back; bill heavier, reddish with extreme tip black or dusky. (Pacific coast, from Vancouver Island to Guatemala.)

Blasipus heermanni (p. 654).

dd. Head gray passing into white on forehead and throat; tail gray with a subterminal band of black; upper tail-coverts not conspicuously paler gray than back; bill smaller, wholly blackish. (Coast of Chile and Peru.)

Blasipus (?) *modestus* (extralimital).^b

bb. Head dark sooty gray or dusky; wing without a conspicuous white bar; tail uniformly gray (in subadults with or more less admixture of black subterminally). (Galapagos Archipelago.) *Blasipus fuliginosus* (p. 656).

aa. Upper and under parts buffy brown, olive-brown, or fuscous, in younger birds with more or less distinct buffy margins to feathers of back and breast; tail slaty blackish or dusky brown, except at extreme base; head without white. (Young.)

b. Bill heavier and lighter in color, only the tip or a subterminal band blackish.

c. Under parts paler, always with much admixture of white on abdomen; upper tail-coverts mostly white (wholly so in younger birds); head dark brown, older birds with a pale nuchal collar strongly contrasted with color of back; bill much stouter..... *Blasipus belcheri*, young (extralimital).

cc. Under parts darker, with little if any admixture of white on abdomen; upper tail-coverts with only slight edgings of white (uniform gray in older birds); head little if any darker than general color, and nape without distinct (if any) pale collar; bill weaker..... *Blasipus heermanni*, young (p. 654).

bb. Bill weaker and uniform in color (brown or dusky) throughout.

c. Bill heavier, the exposed culmen 40; subadults with head dark mouse gray, this color extending down hindneck to back... *Blasipus fuliginosus*, young (p. 657).

cc. Bill weaker, the exposed culmen less than 40; subadults with head drab, sometimes with a darker collar round upper neck.

Blasipus (?) *modestus*, young (extralimital).

^a *Larus belcheri* Vigors, Zool. Journ., iv, 1829, 358 (coasts of Chili and Peru); Zool. Voy. 'Blossom,' Birds, 1839, 39; Selater and Salvin, Proc. Zool. Soc. Lond., 1871, 575 (monogr.); Saunders, Cat. Birds Brit. Mus., xxv, 1896, 226.—*Adelarus belcheri* Bruch, Journ. für Orn., 1853, 107.—[*Leucophæus*] *belcheri* Bonaparte, Compt. Rend., clii, 1856, 771; Consp. Av., ii, 1857, 232.—[*Larus*] *melanurus* (not of Temminck) Lichtenstein, Nom. Av. Mus. Berol., 1854, 99 (Peru).—*Larus fuliginosus* (not of Gould) Cassin, Orn. U. S. Expl. Exped. (Wilkes), 1858, 378 (Cape Horn to Callao).—*Larus frobenii* Philippi and Landbeck, Wiegmann's Archiv für Naturg., 1861, i, 292 (Arica, Chili); Anal. Univ. Chili, xxxi, 1868, 288.

^b *Larus modestus* Tschudi, Wiegmann's Archiv für Naturg., 1843, pt. i, 389 (coast of Peru); Fauna Peruana, Aves, 1845-46, 53, 306, pl. 35; Reichenbach, Natat. Novit., 1852, p. xii, pl. 275, fig. 2284; Selater and Salvin, Proc. Zool. Soc. Lond., 1871, 573 (monogr.); Saunders, Proc. Zool. Soc. Lond., 1878, 183 (monogr.); Taczanowski, Orn. du Pérou, iii, 1886, 449.—[*Chroicocephalus*] *modestus* Lichtenstein, Nom. Av. Mus. Berol., 1854, 98.—[*Epitelolarus*] *modestus* Heine and Reichenow, Nom. Mus. Hein. Orn., 1890, 359.—*Larus bridgesi* Fraser, Proc. Zool. Soc. Lond., 1845, 16 (Valparaiso, Chile; type now in coll. Brit. Mus.); Zool. Typ., 1849, pl. 69; Reichenbach, Natat. Novit., 1852, p. xviii, pl. 281, fig. 2317.—*Blasipus bridgesi* Bruch, Journ. für Orn., 1853, 108.

BLASIPUS HEERMANNI (Cassin).**HEERMANN'S GULL.**

Adults in summer (sexes alike).—Head and upper neck, all round, immaculate white, deepening gradually into light mouse gray on lower neck and under parts and into grayish brown (nearly quaker drab) on back, scapulars, wing-coverts, tertials, and rump, the tertials passing into white at tips; secondaries darker grayish brown, broadly tipped with white; primaries dull black, the proximal ones narrowly tipped with white; under surface of wings uniform grayish brown, like upper surface; upper tail-coverts light gray; tail dull black, tipped with white; bill bright red, sometimes tipped with black; iris grayish brown or brownish gray; naked orbital ring red; legs and feet black.

Adults in winter.—Similar to summer adults, but head and upper neck dusky grayish brown instead of white.

Young.—Entirely sooty grayish brown, lighter and more grayish on under parts; wing-coverts, scapulars, feathers of rump, and upper tail-coverts margined terminally with grayish white; tail blackish dusky very narrowly tipped with white; bill brownish, the terminal third black; legs and feet brownish black.

Immature (first winter)?—Similar to young in first plumage (as described above), but without pale margins to wing-coverts, etc., the general color rather darker, the tail without white tip; bill light reddish for basal two-thirds, the terminal portion black; legs and feet brownish black.

Adult male.—Wing, 344–376 (360.4); tail, 131–154 (139.6); exposed culmen, 42–48 (45.7); tarsus, 48.5–54 (52.2); middle toe, 44–51 (47.9).^a

Adult female.—Wing, 338–356 (346.2); tail, 132–162 (137.2); exposed culmen, 39.5–43.5 (41.7); tarsus, 47.5–51 (49); middle toe, 42.5–46.5 (44.9).^a

^a Ten specimens. An adult female from Washington (Granville, July 10), the only specimen examined from any locality north of San Francisco, is larger than others, its measurements being as follows:

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
FEMALES.					
One adult female from Washington (Granville, July 10).....	356	162	42	51	46.5
Six adult females from California (Aptos, July).....	343.5	134.5	41.9	48.6	45
Two adult females from Espritu Santos Island, Lower California (February).....	350.5	132.7	40.2	49	44.1
One adult female from Todos Santos Island, Lower California (May 21).....	342	135	43	49.5	44

Pacific coast of North America, from Guerrero, Mexico, to Vancouver Island, British Columbia; breeding on islands in Gulf of California (Isla Raza; Idefonso Island) and Marietas Islands off Jalisco; also said to breed at Magdalena Bay, Lower California, Tres Marias Islands, Tepic, and Mazatlán, Sinaloa, but these records doubtful;^a occurring but not breeding along coast of California, Oregon, Washington, and Vancouver Island (Fort Rupert, Oct.; Esquimalt; William Head) and southward along coast of Lower California, Sonora, Sinaloa (Mazatlán, breeding?), Tepic (Isabella Island; Tres Marias Islands, breeding?), Jalisco (Las Marietas Islands, breeding), Colima and Guerrero (Acapulco Bay, April).

Larus heermanni CASSIN, Proc. Acad. Nat. Sci. Phila., vi, 1852, 187 (San Diego, California); Illustr. Birds Calif., Tex., etc., 1856, 28, pl. 5.—HEERMANN, Rep. Pacific R. R. Surv., x, 1859, pt. vi, p. 74.—SALVIN, Ibis, 1865, 190 (Chiapam, Guatemala); 1866, 198 (Chiapam, Guatemala).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 574 (monogr.).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 182 (monogr.); Journ. Linn. Soc., Zool., xiv, 1878, 396 (range); Cat. Birds Brit. Mus., xxv, 1896, 225 (San Jose and Chiapam, Guatemala, Jan.; Salt Spring Island, Fort Rupert, and Esquimalt, Brit. Columbia, etc.).—DEANE, Bull. Nutt. Orn. Club, iv, 1879, 30 (descr. albinistic spec.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880 (Cat. N. Am. Birds), 207; Nom. N. Am. Birds, 1881, no. 672.—COUES, Check List, 2d ed., 1882, no. 781.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 262.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 57; 3d ed., 1910, p. 40.—EVERMANN, Auk, iii, 1886, 88 (Ventura Co., California).—BLAKE, Auk, iv, 1887, 329 (Santa Cruz Island, California).—NELSON, North Am. Fauna, no. 14, 1899, 23 (Isabella Island, Tepic, April 23; habits, etc.).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 21 (Cape San Lucas, La Paz, San Jose del Cabo, and Carmen Island, s. Lower California, Sept. 6 to March 13).—WILLETT, Condor, xx, 1918, 122, fig. 1 (specimens with white primary coverts).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, iii, 1903, 422 (Mazatlan, Sinaloa; Isabella Islands; Tres Marias Islands; Chiapam and San Jose, Guatemala).—BOWLES, Auk, xxiii, 1906, 139 (Tacoma, Washington, common summer and fall, but not breeding).—GRINNELL (J.), Pacific Coast Avif., no. 11, 1915, 22 (coast California, n. to San Francisco Bay, not breeding).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Survey, 1915, 49, fig. 24 (range and migrations).

[*Larus*] *heermanni* GRAY, Hand-list, iii, 1871, 116, no. 11012, part (California).—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.—SHARPE, Hand-list, i, 1899, 140.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 57 (Mazatlan).

[*Larus*] *heermanni* COUES, Key N. Am. Birds, 2d ed., 1884, 747.—RIDGWAY, Man. N. Am. Birds, 1887, 34.

[*Adelarus*] *heermanni* BRUCH, Journ. für Orn., 1853, 107; 1855, 279 (monogr.).

[*Leucophaeus*] *heermanni* BONAPARTE, Naumannia, 1854, 211.

Leucophaeus heermanni BONAPARTE, Rev. et Mag. de Zool., 1855, 21.

[*Blasippus*] *heermanni* BONAPARTE, Compt. Rend., xlii, 1856, 770, Consp. Av., ii, 1857, 211.

^a See Cooke, Distribution and Migration of North American Gulls and their Allies, 1915, 49, 50.

- Blasippus heermanni* LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 848; Mem. Bost. Soc. N. H., ii, 1874, 317 (Mazatlan; Isabella Island, in winter).—BAIRD, Cat. N. Am. Birds, 1859, no. 666; Proc. Ac. Nat. Sci. Phila., xi, 1859, 306 (Cape San Lucas).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 275 (Straits of Fuca, Cape Disappointment, and mouth of Columbia River, Washington).—COUES, Ibis, 1864, 388 (Chiapam, Guatemala; crit.).—RIDGWAY, Orn. 40th Parallel, 1877, 636 (San Francisco Bay).
- Blasippus heermanni* COUES, Proc. Ac. Nat. Sci. Phila., 1862, 304 (monogr.).
- Larus (Blasippus) heermanni* COUES, Birds Northwest, 1874, 641.—COUES and STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 26 (Isla Rasa, Gulf of California, breeding; habits).
- [*Epitellarus*] *heermanni* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 359.
- Larus belcheri* (not of Vigors) BAIRD, in Stansbury's Great Salt Lake, 1852, 335 (Pacific coast North America).—SOLATER, Proc. Zool. Soc. Lond., 1859, 237 (Vancouver Island).—SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 9, part.—COUES, Check List, 1873, no. 551.
- [*Larus*] *belcheri* COUES, Key N. Am. Birds, 1872, 314.
- Blasippus belcheri* BLASIUS, Journ. für Orn., 1865, 378.

BLASIPPUS FULIGINOSUS (Gould).

SOOTY GULL.

Adults in summer (sexes alike).—Head and upper neck dark sooty gray (deep quaker drab), fading toward bill into lighter and more brownish gray, the posterior outline rather distinct, forming a fairly well-defined "hood;" a longitudinal spot of white near each eyelid; lower neck, chest, and upper parts in general plain gray (between neutral gray and deep quaker drab on back, etc.), slightly paler (between light neutral gray and light mouse gray) on median under parts, the under tail-coverts pale gray to grayish white, the upper tail-coverts light neutral gray; secondaries passing into very pale gray or grayish white at tips; six outer primaries dull slate-blackish, the shorter ones with a pale gray terminal spot, the proximal primaries gray (like back, etc.), with indistinct terminal margins of paler gray; tail rather light brownish gray, the lateral rectrices paler; bill dark bay (in life), shading into black terminally, the tip of maxilla burnt sienna;^a iris brown; naked orbital ring dark crimson;^a legs and feet dark prune purple, the webs bay beneath and under side of toes rufous.^a

Immature (nearly adult).—Similar to summer adults, but head and upper neck more brownish, with many feathers of the younger plumage intermingled; under parts darker and more brownish gray, the under tail-coverts not approaching grayish white; secondaries and proximal primaries much darker, the former approaching black and very distinctly and broadly tipped with gray, the latter with more or less distinct subterminal spots of blackish; tail much darker gray,

^a Gifford, Proc. Calif. Acad. Sci., ii, 1913, 45. According to Saunders (Cat. Birds Brit. Mus., xxv, 1896, 223) the bill is lake red and feet livid black; both appear black or nearly so, in dried skins.

shaded or suffused along edges of rectrices with blackish, and crossed by a broad subterminal band of blackish (this nearly disappearing on lateral rectrices), and with more or less distinct terminal spots of gray.

Immature (younger).—Head, neck, chest and most of upper parts sooty grayish brown, the scapulars, interscapulars and wing-coverts with paler margins; rump uniform grayish brown; upper tail-coverts light gray with indistinct terminal spots of brownish; tail dull slate-black fading in to dull gray basally, especially on inner webs, the lateral rectrices with more than basal half of inner web light gray; under parts deep sooty gray or grayish brown laterally, lighter brownish gray clouded with a more decided brown hue medially, becoming pale brownish gray on anal region; under tail-coverts brownish gray becoming paler on margins; bill, legs and feet black.

Adult male.—Wing, 342–359 (350.3); tail, 143–148 (144.3); exposed culmen, 40–44.5 (43); greatest depth of bill, 12.7–14 (13.4); tarsus, 52–58.5 (55.8); middle toe, 42.5–44.5 (43.6).^a

Adult female.—Wing, 308.5–343 (330.1); tail, 129–143 (137.1); exposed culmen, 40–41.5 (40.8); greatest depth of bill, 12.7–14 (13.1); tarsus, 50–55.5 (52.8); middle toe, 39.5–43 (41).^b

Galápagos Archipelago (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Champion, Charles, Chatham, Cowley, Crossman, Daphne, Duncan, Hood, Indefatigable, near James, Jervis, Narborough, Seymour and Tower Islands.)

Larus fuliginosus GOULD, Zool. 'Beagle,' iii, 1841, 141 (James Island, Galapagos Archipelago; coll. Brit. Mus.?).—GRAY, List Birds Brit. Mus., Anseres, 1844, 170, part (Galapagos).—SUNDEVALL, Proc. Zool. Soc. Lond., 1871, 125 (Charles and Indefatigable islands, Galapagos).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1871, 573 (monogr.).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 505, pl. 87 (Indefatigable, Abingdon, and Charles islands, Galapagos; habits).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 184 (monogr.); Journ. Linn. Soc., Zool., xiv, 1878, 396 (range); Cat. Birds Brit. Mus., xxv, 1896, 222 (James, Abingdon, and Indefatigable islands).—RIDGWAY, Proc. U. S. Nat. Mus., xii, 1890, 116 (Indefatigable, James, and Chatham islands); xix, 1896, 635 (Charles, Chatham, Barrington, Indefatigable, James, Bindloe, and Abingdon islands; descr.; synonymy; etc.).—BAUR, Am. Nat., xxxi, 1897, 782 (Albemarle Island), 784 (Jervis Island).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 111 (Abingdon Island), 129 (Albemarle Island), 135 (Tower Island), 189 (Abingdon, Bindloe, James, Indefatigable, Barrington, Chatham, Charles, Albemarle, Jervis, Tower, and Hood islands; descr. eggs); ix, 1902, 413 (Albemarle, Indefatigable, and Seymour islands; habits), 418 (Galapagos).—SNODGRASS and HELLER, Proc. Wash. Acad. Sci., v, 1904, 237 (range, notes, etc.).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 42 (Abingdon, Albemarle, Barrington, Bindloe, Brattle, Champion, Charles, Chatham, Crowley, Crossman, Daphne, Duncan, Hood, Indefatigable, near James, Jervis, Narborough, Seymour, and Tower islands, Galapagos; habits, etc.).

^a Five specimens.

^b Eight specimens.

- [*Larus*] *fuliginosus* SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.—SHARPE, Hand-list, i, 1899, 140.
- [*Larus*] *fuliginosus* GRAY, Gen. Birds, iii, 1846, 654.—COUES, Birds Northwest, 1874, 643 (synonymy; range).—ROTHSCHILD and HARTEBT, Novit. Zool., vi, 1899, 204 (Galapagos).
- [*Leucophæus*] *fuliginosus* BONAPARTE, Rev. Zool., 1855, 20; Consp. Av., ii, 1857, 232.
- Blasipus belcheri* (not of Vigors) BLASIUS, Journ. für Orn., 1865, 378, part (monogr.).
- [*Larus*] *heermanni* (not of Cassin) GRAY, Hand-list, iii, 1871, 116, no. 11012, part (Galapagos).

Genus CREAGRUS Bonaparte.

Creagrus BONAPARTE, Naumannia, 1854, 213. (Type, by original designation, *Larus furcatus* Néboux.)

Medium-sized Laridæ (wing 390–434 mm.) with deeply forked tail, exposed culmen about as long as (sometimes longer than) tarsus, the latter not longer than middle toe with claw, and bill deepest at base and distinctly decurved terminally.

Bill nearly as long as head, distinctly decurved terminally, much deeper at base than at gonydeal angle; exposed culmen nearly as long as (sometimes longer than) tarsus; gonys about half as long as mandibular rami, slightly concave, declinate terminally, its basal angle not prominent; nostril with anterior end posterior to middle of maxilla, the distance thence to loreal or latero-frontal antia about equal to depth of bill at base; latero-frontal antia about midway (vertically) between mental and malar antiæ. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by a little less than five-eighths length of wing. Tail nearly half as long as wing, forked for about one-third its length, the rectrices (including lateral pair) with broadly rounded tips. Tarsus about as long as middle toe without claw (usually a little longer, rarely slightly shorter); hallux perfectly developed, though small.

Coloration.—Adults with under parts (except of head and upper neck), tail, upper tail-coverts and part of wings immaculate white; back, scapulars and most of wing-coverts uniform neutral gray, relieved by a white stripe along outer edge of scapular region; head and upper neck uniform dark gray or dull slate color fading into pale gray on lower neck and chest; a white spot on antero-lateral portions of forehead. Young chiefly whitish, including head and neck, but head with a dusky spot in front of eye and another on auricular region; upper parts largely grayish brown, the feathers margined terminally with white, the tail white, each rectrix with a subterminal spot of dusky. (No seasonal plumages in adults.)

Range.—Galápagos Archipelago; occasional or casual on coast of Peru and off Gulf of Panama. (Monotypic.)

The single known species of this genus has by many authors been referred to *Xema*, the type of which also has a forked tail, a dusky

"hood" (only in summer plumage, however), and a similar colored bill, but resembles it in no other respect. *Creagrus* differs, indeed, from *Xema* in so many decided characters, affecting form even more than coloration, that I am compelled to regard it as one of the most strongly characterized genera in the family.

From *Xema*, the points of difference are many and decided. The bill is very peculiar in shape, being much deeper at the base than elsewhere and strongly decurved at the tip; that of *Xema* being much smaller proportionally, much straighter, and much deeper through the angle than at the base. The tail is relatively much longer and much more deeply forked, being nearly half as long as the wing and forked for about one-third of its length, while that of *Xema* is much less than half as long as the wing and forked for not more than one-eighth of its length. As to coloration, there is even greater difference, *Creagrus* having the dark "hood" descending much farther down over the neck, and instead of being very abruptly terminated by a black border has no very definite outline except on the foreneck; while the white patch at the base of the upper mandible and the very conspicuous white stripe margining the exterior scapulars are entirely peculiar features. Moreover, the dark "hood" is apparently a permanent feature, there being no distinctive winter or non-breeding plumage,^a and the coloration of the young is quite distinct in character.

The type of *Creagrus* is a large gull, about the size of *Larus delawarensis*, while that of *Xema* is hardly so large as *Chroicocephalus philadelphia*; and with its dark colored head, deep red feet, and deeply forked tail ought to be very easily identified at a considerable distance.

CREAGRUS FURCATUS (Nébourg).

SWALLOW-TAILED GULL.

Adults (sexes alike).^b—Head and upper neck, all round, uniform dull slate color (or between deep neutral gray and dark quaker drab), relieved by a white spot involving antero-lateral portion of forehead and a very small white spot at point of malar antia (the latter sometimes obsolete), the dark gray or slate color more or less abruptly defined on foreneck, but laterally and posteriorly fading gradually into light neutral gray on lower neck, the chest and side of breast pale neutral gray, fading gradually into white on remaining under parts;^c back, rump, scapulars, tertials and proximal wing-coverts uniform neutral gray, the outermost scapulars broadly and

^a Gifford, Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 37.

^b According to Gifford (Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 37) there seems to be no seasonal change in coloration in this species, in which respect it differs from most if not all other Laridæ.

^c The white of under parts is often tinged with eosine pink in recently killed specimens.

abruptly edged with white, forming a conspicuous stripe along outer edge of scapular region; upper tail-coverts, tail, proximal secondaries, distal greater wing-coverts and coverts along margin of wing immaculate white; distal secondaries pale gray, their inner webs white; four inner (proximal) primaries pale gray narrowly margined with white, the sixth (from outside) similar but with a blackish subterminal spot or blotch, the fifth (from outside) mostly pale gray with shaft dusky and distal portion (for about 30–35 mm.) black, the extreme tip white; fourth with the black much more extended (125 mm. or more on outer web), with a still smaller apical spot of white; ^a third primary with outer web black almost to base of outer web, the second and first (outermost) with outer web entirely black; bill black, with terminal third (approximately) yellowish horn white, pale olive-buff or grayish pea green; rictus and broad tumid naked, orbital ring orange-red to deep red or crimson; skin of inter-ramal space salmon-red or pink; iris dark brown; legs and feet peach-blossom pink, the webs geranium pink (in life).^b

Young.—"Head white, with pale brown streaks on the lores, and darker confluent markings in front of and round the eyes; a clove-brown patch on the auricular [region]; feathers of the neck and mantle broadly barred with ash to umber brown and tipped with white; the long inner secondaries with brown centers and with some gray on the outer webs; the outer secondaries and the wing upward to the carpal joint white; primaries as in the adult; rump gray mottled with brown; tail-feathers white, broadly banded with brown (except the outer pair, which have merely brown tips), and all of them edged with white; under parts white; bill blackish, the lower mandible dark horn color; iris brown; tarsi and toes clay-brown (probably flesh-color in the living bird.)" ^c

^a The three outer primaries have the white apical spots reduced to mere specks which would undoubtedly quite disappear with slight wearing of the feathers.

^b Gifford, Proc. Calif. Acad. Sci., 4th ser., ii, 1913, 41. There seems, however, to be some variation in the colors of the feet, etc., Mr. C. F. Adams' description from freshly killed specimens being as follows:

Adult male.—Tip of beak pearl gray; basal portion brownish slate-black; iris seal brown (large pupil); eyelids coral red; tibiae just below feathers washed with vermilion, most intense next feathers, and between toes at base of webs about same color; tarsi and toes rose pink; creases in webs dusky, the papillae rose pink; nails brownish black, with a narrow grayish line on top; under surface of webs same color as upper; under surface of toes and heel orange-ochraceous (not showing on heel when foot is resting on flat surface); between scales on tarsi light ashy; webs most dusky at edges. Length, 22½; extent, 4 feet 4½ inches.

^c Saunders, Cat. Birds Brit. Mus., xiv, 1896, 166. The fresh colors of the bill, etc., are thus described by Mr. C. F. Adams:

Young female (Sept. 2).—Legs and feet drab-gray, except posterior portion of tarsus, which is tinged with broccoli brown; iris dark brown; eyelids black; bill slate color.

Adult male.—Wing, 390–434 (416.8); tail, 169–202.5 (189.3); exposed culmen, 46.2–53.5 (50.8); depth of bill at gonydeal angle, 12.4–14.2 (13.1); depth of bill at base, 16.5–18.5 (17.5); tarsus, 48–56 (52.7); middle toe, 46.2–53.3 (50.7).^a

Adult female.—Wing, 406.5–425 (414.3); tail, 182.5–205 (193); exposed culmen, 48.5–51.5 (49.7); tarsus, 47–51 (48.9); middle toe, 45.7–52 (48.4).^b

Galápagos Archipelago (Albemarle, Barrington, Brattle, Champion, Charles, Chatham, Cowley, Crossman, Culpepper, Dalrymple, Daphne, Delano, Enderby, Gordon, Guy Fawkes, Hood, Indefatigable, James, Kicker, Narborough, Seymour, Tower, and Wenman islands); casual off coast of southern California (Monterey Bay; off San Diego, April 14, 1895)?, on Malpelo Island, off Bay of Panama (March 5, 1891) and on coast of Peru (Paracas Bay, Oct.).

Larus furcatus NÉBOUX, Rev. Zool., 1840, 290 ("Monterey" [California]; coll. Paris Mus.); Voy. 'Venus,' Atlas, 1842, pl. 10.—PRÉVOST and DES MURS, Voy. 'Venus,' Ois., 1855, 277.

[*Xema furcatus* BRUCH, Journ. fur Orn., 1853, 103 ("Californien").

[*Xema furcatum* GRAY, Hand-list, iii, 1871, 117, no. 11014.—COUES, Key N. Am. Birds, 1872, 317.

Xema furcatum COUES, Check List, 1873, no. 559; Birds Northwest, 1874, 661 (monogr.).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 210 (monogr.); 1882, 523, pl. 34 (Paracas Bay, Peru, Oct.; descr. and colored plate of young).—TACZANOWSKI, Orn. du Pérou, iii, 1886, 457.—STREETS, Auk, xxix, 1912, 233 (off Chatham Island, Galapagos, habits).

Xema furcata COUES, Check List, 2d ed., 1882, no. 791.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 273.—SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 165 (Dalrymple Rock, near Chatham Island, Galapagos: Paracas Bay, Peru).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 190 (Wenman, Culpepper, Tower, and Hood Islands, Galapagos Archipelago; descr. nest and eggs); ix, 1902, 412 (Wenman, Daphne, Guy Fawkes, and Albemarle islands, Galapagos; habits; descr. nest, eggs, young, etc.), 418 (Galapagos).

[*Xema furcata* COUES, Key N. Am. Birds, 2d ed., 1884, 753.—RIDGWAY, Man. N. Am. Birds, 1887, 38.—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 204 (Galapagos).

[*Xema furcata* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 56.

Xema (Creagrus) furcata AMERICAN ORNITHOLOGISTS' UNION, Check List, 1896, 350 (Hypothetical List, no. 4).

[*Creagrus furcatus* BONAPARTE, Naumannia, 1854, 213; Compt. Rend., xlii, 1856, 771.—BRUCH, Journ. für Orn., 1855, 292.—SHARPE, Hand-list, i, 1899, 139.

Creagrus furcatus LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 857.—BAIRD, Cat. N. Am. Birds, 1859, no. 679.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 312 (monogr.).—BLASIUS, Journ. für Orn., 1865, 370 (crit.).—SALVIN, Trans. Zool. Soc. Lond., ix, 1876, 506 (Dalrymple Rock, Chatham I., Galapagos).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 207 (Cat. N. Am. Birds, no. 678); xii, 1890, 117 (Chatham I., Galapagos; full description); xix, 1896, 638 (Brattle, Hood, Chatham, off James, and Tower islands, Galapagos; Malpelo I., off Bay of Panama; etc.; descr., measurements, etc.); Nom. N. Am.

^a Thirteen specimens.

^b Five specimens.

- Birds, 1881, no. 678; Man. N. A., Birds, 2d ed., 1896, 583.—LUCAS, Proc. U. S. Nat. Mus., xiii, 1891, 130 (osteology).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, viii, 1891, 88; Check List, 2d ed., 1895, 326 (hypothetical list, no. 4); 3rd ed., 1910, 369 (hypothetical list).—BAUER, Am. Nat., xxxi, 1897, 783 (rock between Gardner and Hood islands, breeding; Barrington Islands; near Seymour Island; Abingdon Island).—TOWNSEND (C. H.) Bull. Mus. Comp. Zool., xxvii, 1895, 125 (Malpelo I., off Bay of Panama).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 89 (Culpepper I., Galapagos).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 237 (Chatham, Hood, Seymour, James, Albemarle, Narborough, Tower, Wenman, and Culpepper islands, Galapagos; Malpelo I.; habits; descr. eggs).—GIFFORD, Proc. Calif. Ac. Sci., 4th ser., ii, pt. i, 1913, 35 (Albemarle, Brattle, Champion, Charles, Chatham, Cowley, Crossman, Culpepper, Dalrymple, Daphne, Delano, Enderby, Gordon, Guy Fawkes, Hood, Indefatigable, James, Kicker, Narborough, Seymour, Tower, and Wenman islands, Galapagos; habits, etc.).
- [*Creagrus*] *furcatus* ROTHSCCHILD and HARTERT, Novit. Zool., vi, 1899, 109 (Wenman I., Galapagos).
- Creagrus furcalus* ROTHSCCHILD and HARTERT, Novit. Zool., vi, 1899, 107 (at sea north of Culpepper I.).
- Creagrus furcata* ANTHONY, Auk, xii, 1895, 291 (off San Diego, Cal., Apr. 14, 1895).

Genus XEMA Leach.

- Xema* LEACH, in Ross's Voy. Baffins Bay, 1819, App., lvii. (Type, by monotypy, *Larus sabini* Sabine.)
- Chemus* (emendation) REICHENOW, Journ. für Orn., April, 1889, 188.

Small Laridæ (wing 260–286 mm.) with tail less than half as long as wing, slightly or moderately forked, exposed culmen decidedly shorter than tarsus, and bill deepest at gonydeal angle, not decurved terminally.

Bill much shorter than head, the exposed culmen about as long as middle toe without claw, much shorter than tarsus, much deeper at gonydeal angle than at base, the maxilla but slightly decurved terminally, the gonys strongly ascending terminally with basal angle prominent. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by about two-thirds the length of the wing. Tail much less than half as long as wing, forked for not more than length of tarsus, the rectrices (including lateral pair) broadly rounded at tips. Tarsus decidedly longer than exposed culmen, much longer than middle toe without claw.

Coloration.—Adults with back, upper rump, scapulars and greater part of wings uniform gray; lower neck, under parts, lower rump, upper tail-coverts, tail, and distal portion of greater wing-coverts and secondaries immaculate white; distal primaries black tipped with white; head and upper neck dark gray bordered below by a black collar, in winter white with occiput, nape and auricular region dark

^a *Xήμη*, yawning, gaping. (Richmond.)

gray. Young grayish above, the feathers margined terminally with pale fulvous or dull buffy and with a dusky submargin and tail with a broad subterminal band of black.

Range.—Circumpolar regions, southward in winter to Bermudas, Texas, Peru, etc. (Monotypic.)

XEMA SABINI (J. Sabine).

SABINE'S GULL.

Adults in summer (sexes alike).—Head and upper neck, all round, uniform dark gray (between deep neutral gray and dark quaker drab), bordered below by a narrow but distinct collar of black, widest behind; lower neck, entire under parts, lower rump, upper tail-coverts, tail, most of exposed portion of secondaries and greater wing-coverts, and proximal primaries immaculate white, the under parts sometimes tinged with eosine pink, the white of secondaries and greater wing-coverts shading into gray basally; back, scapulars, upper rump and wing-coverts (except greater) uniform gray (between light neutral gray and light mouse gray); four outer primaries black broadly tipped with white, their inner webs broadly margined with the same; fifth primary (from outside) with greater part of inner web and distal portion of outer web (for about 44–45 mm.) white, the remainder black; border of wing, from carpal joint backward to and including primary coverts and alula uniform black; bill black with terminal portion, abruptly, yellowish; naked orbital ring red; iris dark brown; legs and feet dusky gray (blackish in dried skins).

Adults in winter.—Similar to summer adults, but head and neck mostly white, only the occiput, nape, and auricular region dark grayish.

Young.—Upper parts deep brownish gray or grayish brown, the feathers margined terminally with pale fulvous or light grayish buffy, this on tertials, longer scapulars, etc., preceded by submarginal line of dusky; remiges and greater coverts as in adults; tail white with a broad subterminal band of black, the tip, narrowly, white or pale fulvous; upper tail-coverts, entire under parts, and most of head and neck white; bill dusky, more brownish basally; legs and feet light brownish (in dried skins).

Downy young.—General color deep brownish buff or avellaneous, fading into pale dull buff (nearly tilleul buff) on breast and abdomen; crown and occiput with irregular spots of black, smaller anteriorly; no spots on lateral or under portions of head; back, etc., irregularly spotted, marbled or clouded with blackish; bill brownish, the terminal third (approximately) darker.

Adult male.—Wing, 265–286 (277.2); tail, 114.5–130 (122.4); exposed culmen, 25.5–28.5 (27.4); tarsus, 31.5–34.5 (33.1); middle toe, 26.5–28.5 (27.3).^a

Adult female.—Wing, 260–276 (267.5); tail, 111–114.5 (112.2); exposed culmen, 25–27 (26.2); tarsus, 30–32 (31.5); middle toe, 25.5–28 (26.6).^b

Breeding on Bering Sea coast of Alaska, from mouth of Kuskoquim River (from Bristol Bay?) to St. Michaels, on St. Lawrence Island in Bering Sea, along coast of Mackenzie (Franklin Bay; Liverpool Bay; Point Dalhousie), at Cambridge Bay, Victoria Land, Southampton Island in northern portion of Hudson Bay, on western coast of Greenland, from Melville Bay to Thank God Harbor, lat. 81° 40' N., and on Taimyr Peninsula, Siberia; occurring in summer, but not known to breed, on Grinnell Land, Melville Peninsula, Prince Regents Inlet, Polaris Bay, Point Barrow, Spitzbergen, Jan Mayen Land, Lena Delta and Novo Marinsk (Siberia), Davis Strait, Ungava Bay (July, 1884), and other arctic and subarctic localities; migrating southward over greater part of United States (irregularly and locally):^c as far as coast of Texas (Corpus Christi, Oct.), but chiefly on Pacific coast, as far as Peru (Tumbez; San Lorenzo; Callao Bay), where common from December to April, but not recorded from any locality on the Atlantic or Gulf coasts of the United States between Long Island, New York, and Texas, nor from any part of Mexico, Central America, or the West Indies, except Lower California (San Quintin, Aug. 14, 1905); accidental in Bermudas (1 specimen, date unrecorded,

^a Nine specimens.

^b Four specimens.

^c United States records are as follows: Maine (Bluff Island, Saco Bay, Sept. 11, 1912; near Calais, spring of 1878; Scarborough, May 31, 1897; near Portland, Sept. 22, 1899).—Massachusetts (Chatham, 2 specimens, Sept. 2, 1912; Boston Harbor, Sept. 27, 1874; Cape Cod, Aug. 21, 1869; North Truro, Aug. 21, 1889).—New York (Gardiners Bay, Long Island, Oct. 7, 1899; Raynor South, Long Island, July, 1837; Cayuga County, about 1887).—Ohio (Cleveland).—Michigan (Ann Arbor, Nov. 17, 1880).—Wisconsin (Delavan Lake, Oct. 7, 1900).—Illinois (Lake Michigan, near Chicago, April 1, 1873; Warsaw, Sept. 15, 1900; opposite Clark County, Missouri, Sept., 1900).—Iowa (Burlington, Oct. 15, 1891 and Oct. 12, 1899).—Nebraska (Beatrice, Sept. 2, 1899; Lincoln, Sept. 30, 1899).—Kansas (Humboldt, Sept. 21, 1876; Hamilton, Greenwood County, Oct. 3, 1899).—Oklahoma (Big Lake, near Claremont, Nov., 1910).—Texas (Corpus Christi, Oct.).—New Mexico (near Albuquerque, Oct. 7, 1900).—Colorado (Denver; Loveland; near Breckenridge, 10,000 feet altitude, Sept. 26, 1886; Manitou Park, Oct. 10, 1899; near Boulder, Sept. 15, 1907; Fort Collins).—Utah (Ogden, Sept. 28, 1871).—Montana (Terry, several, Sept. 22, 23, 1904).—Oregon (Corvallis, Sept. 19, 1908, Sept. 14, 1909).—Washington (Sea Island, Shoalwater Bay, Sept. 24, 1897).—California (San Francisco Bay, Oct., 1889; Monterey Bay, Oct., 1889, Oct. 5, 1890, Aug. 23, 1894, May 12 and 15–21, 1897, Oct. 5, 8, 1899, Apr. 9, 1903, May 15–21, July 22, about 50 seen, and Oct. 28, 1907; Oct. 6, 1909; San Diego, May 15, 1905; Santa Cruz Island, Aug. 6, 1909; near Los Coronados Islands, Aug. 20, 1910; Santa Barbara Channel, Aug. 11, 1912, Aug. 1, 4, 7, 1913, flock; Mono Lake, Sept. 18, 1891.)

but prior to 1848); occasional in British Islands (many records); accidental in France, Holland, island of Helgoland, and in Germany.

Larus sabini SABINE (J.), Trans. Linn. Soc. Lond., xii, pt. 2, 1819, 522, pl. 29 (near Melville Bay, west coast of Greenland).—SABINE (E.), Trans. Linn. Soc. Lond., xii, pt. 2, 1819, 551; Suppl. App. Parry's 1st Voy., 1821, p. ccv (Prince Regents Inlet); Parry's Narrative 2nd Voy., 1825, 254, 301 (Melville Peninsula).—LEACH, Thompson's Ann. Philos., xiii, 1819, 61 (Disco Island, Greenland).—RICHARDSON, Parry's Narrative 2nd Voy., 1825, App. 360 (Spitzbergen).—MACGILLIVRAY, Mem. Wern. Soc., v. 1826, 249.—ROSS (J. C.), App. Parry's 4th Voy., 1828, 195 (Waigats Strait, Spitzbergen); App. John Ross's 2nd Voy., 1835, xxxvii.—WILSON (J.), Illustr. Zool., 1831, pl. 3.—AUDUBON, Orn. Biog., iii, 1835, 561, pl. 285; Synopsis, 1839, 323; Birds Am., 8vo ed., vii, 1844, 127, pl. 441.—NAUMANN, Vög. Deutschl., xiii, 1847, pl. 388, figs. 1, 2; Anhang, xiii, 1860, 272, pl. 272, figs. 3, 4.—SELYS-LONGCHAMPS, Faune Belge, 1842, 152.—YARRELL, Brit. Birds, iii, 1843, 421; 2nd ed., iii, 1845, 537.—GIRAUD, Birds Long Is., 1844, 362.—THOMPSON, Nat. Hist. Ireland, Birds, iii, 1851, 309.—MEYER, Col. Illustr. Brit. Birds, vii (1850), 1857, 115, pl. 299.—MARTENS, Journ. für Orn., 1859, 222 (Bermudas).—MALMGREN, Journ. für Orn., 1863, 449 (Spitzbergen).—HARTING, Birds Middlesex, 1866, 251; Proc. Zool. Soc. Lond., 1871, 111, 122 (coast Greenland, breeding; Spitzbergen; Prince Regents Inlet; Melville Peninsula); Handb. Brit. Birds, 1872, 171 (many British records).—RODD, Birds Cornwall, 1880, 166.—BUNGE, Mél. Biol., xii, Cir. 1, 1884, 53 (Lena delta, Siberia).—GÄTKE, Vogelw. Helgoland, 1891, 579.

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L[arus] sabini FEILDEN, Zoologist, 1879, 8 (Cambridge Bay, Victoria Land, breeding).

Larus sabini SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 428.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 296.—SCHLEGEL, Rev. Crit., 1844, cxxviii.—DEGLAND, Orn. Eur., ii, 1849, 331.—MIDDENDORFF, Sibir. Reis., ii, pt. 2, 1853, 244, pl. 24, fig. 5, and pl. 25, fig. 1.—HOMYER, Journ. für Orn., 1870, 438 (e. Siberia).—CORDEAUX, Ibis, 1875, 187 (Helgoland, 1 spec.).—ADAMS, Ibis, 1878, 440 (St. Michaels, Alaska; habits).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 298.—STEVENSON and SOUTHWELL, Birds of Norfolk, iii, 1890, 319.

Larus sabini WEBNER, Atlas, Palmipèdes, 1828, pl. 30.—TEMMINCK, Man. d'Orn., 2d ed., iv, 1840, 488.—SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 44.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 443.—MARMOTTAN and VIAN, Bull. Soc. Zool. France, iv, 1879, 249 (Crotoy, France).

[Larus] sabini D'HAMONVILLE, Cat. Ois. Eur., 1876, 62.

Xema sabini LEACH, in Ross's Second Voy. Baffin Bay, 4to ed., App. ii, 1819, p. lvii, pl. (unnumbered).—BREHM, Lehrb., ii, 1824, 699.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 177, pl. 20.—KAUP, Natürl. Syst., 1829, 66-67, 196.—EYTON, Rarer Brit. Birds, 1836, 54.—GOULD, Birds Europe, v, 1837, 429.—BONAPARTE, Geog. and Comp. List, 1838, 62; Cat. Ucc. Eur., 1842, 77.—GRAY, List Birds Brit. Mus., Anseres, 1844, 171; Gen. Birds, iii, 1846, pl. 180, fig. 3; List Brit. Birds, 1863, 236.—RICHARDSON, Journ. Boat Voy., i, 1851, 262.—REINHARDT, Ibis, 1861, 19 (Greenland, breeding north of Upernavik).—FRITSCH, Vög. Eur., 1870, 465, pl. 55, fig. 4.—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 311 (monogr.).—BLASIUS, Journ. für Orn., 1865, 270.—NEWTON, Proc. Zool. Soc. Lond., 1871, 57, pl. 4, fig. 5 (egg).—ALLEN, Bull. Mus. Comp. Zool., iii, 1872, 173, 183 (Ogden, Utah, 1 spec.,

Sept. 28).—BREWER, Proc. Bost. Soc. N. H., xx, 1879, 275 (Milltown, New Brunswick).—AMERICAN ORNITHOLOGISTS' UNION, Check List., 1886, no. 62; 3rd ed., 1910, p. 41.—BECK, Condor, ix, 1907, 58 (Monterey Bay, California, common in Sept.).—PREBLE, North Am. Fauna, no. 27, 1906, 271 (coast of Mackenzie, breeding).—FLEMING, Auk, xxix, 1912, 388 (near Fox Island, Missouri, Sept. 15, 1900; Warsaw, Illinois, Sept. 15, 1900).—HERSEY, Auk, xxx, 1913, 105 (Chatham, Massachusetts, 2 specs., Sept. 2, 1912).—NORTON, Auk, xxx, 1913, 574 (Bluff Island, Saco Bay, Maine, Sept. 11, 1912).—BUNKER, Kansas Univ. Sci. Bull., vii, 1913, 140 (Hamilton, Greenwood Co., Kansas, Oct. 3, 1909).—WRIGHT, Condor, xv, 1913, 227 (Santa Barbara channel, California, flock, Aug. 1, 1912; flock, Aug. 1, 4, and 7, 1913).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 23 (coast California, common fall and spring migrant).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 65, fig. 31 (range and migrations).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 372 (Avatcha Bay, Kamchatka, May; Plover Bay, Siberia, June; Camden Bay, Alaska, Aug.; Demarcation Bay, May, June).—HERSEY, Smithsonian. Misc. Coll., lxvi, no. 2, 1916, 14 (St. Michael, mouth of Yukon River, Point Hope, and south of Point Barrow, Alaska; Cape Serdze, Siberia).

Xema sabini RICHARDSON, App. Parry's Second Voy., 1825, 360; Journ. Bot Voy., i, 1851, 262 (130° W., 70° N., breeding).—JARDINE, Contr. Orn., 1849, 86 (Bermudas, rare in winter).—HURDIS, Jardine's Contr. Orn., 1850, 13 (Bermudas, 1 spec.).—REICHENBACH, Syst. Nat., 1850, pl. 5; Av. Syst. Nat., Longipennes, 1852, pp. iv, v.—BREM, Naumannia, 1855, 294.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 857; Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).—BAIRD, Cat. N. Am. Birds, 1859, no. 680.—NEWTON, Proc. Zool. Soc. Lond., 1861, 401 (descr. eggs); 1871, 57, pl. 4, fig. 5 (egg); Arctic Man., 1875, 105.—GRAY, List Brit. Birds, 1863, 236.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 306 (St. Michaels and Pastolik, Alaska).—DROSTE, Journ. für Orn., 1869, 387 (Färöe Islands).—FRITSCH, Vög. Eur., 1870, 465, pl. 55, fig. 4.—SUNDEVALL, Met. Nat. Av. Disp. Tent., 1872, 136.—FEILDEN, Zoologist, n. s., 1872, 3287 (Faroe Islands). Trans. Norwich Soc., iv, 1887, 351 (York Factory, Ontario).—GOULD, Birds Great Brit., v, 1873, 67.—DRESSER, Birds Europe, viii, 1874, 337, pl. 593.—BESSELS, Bull. Soc. Géogr. Paris, 1875, 296 (Polaris Bay); Amerik. Nord-Pol. Exped., 1879, 312.—BREWSTER, Am. Sportsman., 1875, 370 (Boston Harbor, Sept. 27, 1874).—RIDGWAY, Field and Forest, ii, 1877, 210 (Boulder Co., Colorado).—REID, Zoologist, 1877, 490 (Bermudas); Bull. U. S. Nat. Mus., no. 25, 1884, 268 (Bermudas, 1 spec., no date).—SCLATER and SALVIN, Proc. Zool. Soc. Lond., 1878, 141 (Tumbez, Peru; crit.).—SAUNDERS, Proc. Zool. Soc. Lond., 1878, 209 (monogr.); 1882, 524 (Callao Bay, Peru, Dec., 1881, 2 spec.; crit.); 1884, 150 (Island of Mull, Great Britain); 1892, 183 (Lymington, Hants, England); Journ. Linn. Soc., xiv, 1878, 400 (range); ed. (4th) Yarrell's Hist. Brit. Birds, iii, 1884, 573; Man. Brit. Birds, 1889, 641; Cat. Birds Brit. Mus., xxv, 1896, 162.—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 101 (Davis Strait).—CLARKE, Cat. Yorkshire Vertebr., 1881, 81.—MAYNARD, Birds E. N. Am., 1881, 487.—COUES, Check List, 2d ed., 1882, no. 790.—STEARNS and COUES, New Engl. Bird Life, 1883, 353.—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 193.—DOWLING, Zoologist, 1884, 490 (Dublin Bay, Ireland).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 269.—MURDOCH, Exped. Point Barrow, 1885, 125.—GOSS, Birds Kansas, 1886, 2 (Humboldt, Kansas, Sept. 19, 1876); Hist. Birds Kansas, 1891, 28.—TURNER, Contr. N. H. Alaska, 1886, 126 (breeding from St. Michaels to Bristol Bay).—FISCHER and PELZELN, Mitth. Orn. Ver. Wien, 1886, no. 18 (Jan Mayen

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- X[ema]* *sabinii* COUES, Key N. Am. Birds, 2d ed., 1884, 753.
- Xema sabiniei* ROSS, Voy. Baffins Bay, 1819, pl. facing p. lvii.—REINHARDT (J.), Journ. für Orn., 1854, 443 (Greenland).—NELSON, Bull. Nutt. Orn. Club, i, 1876, 41 (Lake Michigan, near Chicago, April 1, 1873); Cruise 'Corwin' in 1881 (1883), 109 (Alaska Peninsula to Kotzebue Sound; St. Lawrence Island; n. e. coast Siberia; etc.).—COUES, Check List, 1873, no. 558; Birds Northwest, 1874, 660.—HENSHAW, Ann. Lyc. N. Y., xi, 1875, 13 (Ogden, Utah).—ALLEN, Bull. Nutt. Orn. Club, iii, 1878, 195 (near Calais, Maine, spring of 1878).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 207 (Cat. N. Am. Birds, no. 677); Nom. N. Am. Birds, 1881, no. 677.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 252 (Ungava Bay, 1 spec., July, 1884).—BERLEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Callao Bay, Peru).—SCHALOW, Journ. für Orn., 1899, 379 (Spitzbergen).—FISHER (W. K.), Condor, iv, 1902, 10 (Mono Lake, California, Sept., 1901).—GRINNELL (J.), Pacific Coast Avif., no. 3, 1902, 13 (California range).
- [*Xema*] *sabiniei* COUES, Key N. Am. Birds, 1872, 317.

- X[ema] sabinei* NELSON, Bull. Essex Inst., viii, 1876, 147 (near Chicago, Illinois, April, 1873).
Chema sabini REICHENOW, Journ. für Orn., 1889, 188; Syst. Verz. Vög. Deutschl., 1889, 62.—HARTERT, Katal. Vogelsamml. Senckenb., 1891, 243.
 [*Chema*] *sabini* HEINE and REICHENOW, Nom. Mus. Hein. Orn., 1890, 360.
Zema sabini HOLBÖLL, Naturhist. Tidsskr., iv, 1843, 423 (Greenland).
Gavia sabini MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 241; Brit. Birds, v, 1852, 607.
Xema collaris (not of Schreibers) LEACH, in 8vo ed. Ross's Voy. Baffin Bay, ii, 1819, 164.—OLPHE-GALLIARD, Contr. Faune Eur. Occid., fasc. x, 1886, 106.
Larus minutus (not of Pallas) BOLSMANN, Naumannia, 1852, Bd. ii, Heft iii, 35 (Westphalia, Germany).

Genus RHODOSTETHIA Macgillivray.

- Rossia* (not of Owen, 1835) BONAPARTE, Geog. and Comp. List, 1838, 62. (Type, *Larus roseus* Macgillivray.)
Rhodostethia MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 252. (Type, by original designation, *Larus rossii* Richardson = *L. roseus* Macgillivray.)
Rhodostethia (emendation?) TACZANOWSKI, Mém. Acad. St. Petersb., xxxix, 1893, 1048.

Very small Laridæ (wing 241–261 mm.) with tail cuneate or graduated (the middle pair of rectrices much longer than lateral pair), exposed culmen only about two-thirds as long as tarsus, the adults with head, neck, under parts, etc., white (more or less tinted with pink), in summer with a black collar round neck.

Bill relatively very small, much shorter than head, the exposed culmen only about two-thirds as long as tarsus, its upper and lower outlines straight and nearly parallel for basal two-thirds, beyond which former is strongly decurved, the latter decidedly ascending terminally, in a straight line from angle of gonys, the last not prominent. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by about three-fifths the length of the wing. Tail less than (sometimes nearly) half as long as wing, distinctly cuneate or graduated, the middle pair of rectrices longest and much longer than lateral pair; tail coverts very long, extending almost to tip of middle rectrices. Tarsus much longer than middle toe without claw, less than one-eighth as long as wing, rather stout, the somewhat roughened bare portion of tibia very short; hallux well-developed, though small, with claw relatively large and strongly curved.

Coloration.—Adults with back, scapulars, and wings uniform very pale (pallid) neutral gray; rest of plumage immaculate white, usually suffused (often deeply) with pure eosine pink, the neck encircled, in summer, by a narrow black collar. Young with pileum, hindneck, back and scapulars clouded with dusky or sooty blackish, the feathers of lower back, tipped with buffy; tail white, the six middle rectrices tipped with sooty blackish.

Range.—Circumpolar regions, south in winter, casually, to England, Faroe Islands and Helgoland. (Monotypic.)

RHODOSTETHIA ROSEA (Macgillivray).

ROSS'S GULL.

Adults in summer (sexes alike).—Head, neck, entire under parts, including axillars, lower rump, upper tail-coverts and tail immaculate white, the neck and under parts more or less strongly (often deeply) suffused with pure eosine pink;^a a narrow collar of black round upper part of neck, widest in front, formed by black tips to the feathers; back, scapulars, upper rump, and wings (including their under surface), pallid neutral gray (very slightly darker on wings), the secondaries and proximal primaries tipped with white or pink, the outer web of outermost primary mostly black or blackish; bill black; rictus and naked orbital ring deep orange to vermilion red (in life); iris dark brown; legs and feet orange-red, vermilion, or coral red (in life).

Adults in winter.—Similar to summer adults but without any black collar, and pileum tinged with pale gray.

Immature (second summer).—Similar to summer adults, but lesser and middle wing-coverts dusky or blackish superficially (only the concealed portion being pale gray); proximal secondaries, alula, and adjacent small feathers, together with three outer primaries, dusky or blackish, the inner webs of the last, however, with the marginal half pale gray; remaining primaries pale gray passing into white on the innermost ones, all of them broadly tipped with black; tail white, but third, fourth, and fifth pairs of rectrices (counting from outside) broadly tipped with black, this about 19 mm. wide on the fifth (next to middle) pair.

Young (first autumn).—General color of upper parts pallid neutral gray superficially (the feathers white beneath surface), but this broken by heavy cloudings of dark sooty, many of the feathers being broadly tipped with this color, the dusky prevailing on upper rump, where the feathers are narrowly tipped with dull buffy; lower rump, upper tail-coverts and greater part of tail immaculate white, the six middle rectrices tipped with sooty blackish, this about 20–22 mm. wide on middle pair but reduced on third pair (from middle) to a slight mottling at extreme tip; lesser and middle wing-coverts, tertials, and most of scapulars dark sooty or sooty blackish, margined terminally with pale grayish buffy; greater wing-coverts immaculate pallid gray fading into white terminally; secondaries and two innermost primaries white; next two primaries with white inner webs and shafts, the outer webs pallid gray, the third (from inside) with inner web narrowly margined with black terminally, the fourth with an elongated spot of black on distal portion of each

^a In some specimens this pink suffusion pervades practically the entire plumage, even the pale gray of the "mantle" being more or less tinged by it.

web; next two (fifth and sixth, from inside) with inner webs grayish white, the outer webs pallid gray, both very broadly tipped with black, and the shafts dusky; seventh primary similar but with median portion grayish dusky, forming a lanceolate stripe; three outer primaries with outer webs wholly blackish, their inner webs with a broad stripe of the same along shafts; alula, carpal region, and primary coverts plain sooty black, the last narrowly tipped with pale grayish buff; lateral and lower portions of head and neck white rather indistinctly barred with dusky, except on chin and throat, and with a dusky suffusion immediately in front of eye; under parts, from chest backward, including axillars, immaculate white; under wing-coverts and under surface of primaries pallid neutral gray; bill black, more brownish basally; iris brown; legs and feet "dull fleshy purple".^a

Downy young.—"Ground-color dusky yellow (pale sulphur yellow to burnt wood yellow, occasionally with a rusty tinge) this densely covered with numerous irregular blackish gray markings, pale and ill-defined on flanks and nearly black on head, the abdomen and median portion of breast immaculate whitish; the pattern of markings for the most part with longitudinal tendency, transverse on nape, and cuneate on crown."^b

Young male.^c—Wing, 241–261 (253.3); tail, 98.5–119 (108.2); exposed culmen, 18–22 (20.4); tarsus, 29–31 (30.2); middle toe, 24–27 (25.8).^d

Young female.—Wing, 245–259 (253.9); tail, 106–118.5 (109.3); exposed culmen, 19.5–21 (20.1); tarsus, 28–31 (29.6); middle toe, 24.5–26 (25.5).^e

Arctic regions, circumpolar; breeding on western coast of Greenland, in vicinity of Disko Bay (Ekomuit, district of Christianshaab; / Disko Bay)^f, and in northern Siberia, from Russkoe Ustje, delta of Indigirka River (lat. 71° N.; long. 149° E.) and 300 miles inland in lat. 67° 30' N.; 145° E. to northeastern portion of Kolyma delta (lat. 69° 30' N.; long. 161° E.) and about 200 miles inland at

^a E. W. Nelson.

^b Buturlin, *Ibis*, 1906, 334.

^c Of the sixteen specimens, with sex determined, examined, all are young in their first autumn, the few adults seen being undetermined as to sex.

^d Nine specimens.

^e Seven specimens. An adult differs only in longer tail, its measurements, being as follows: Wing, 256; tail, 122; exposed culmen, 21; tarsus, 30.5; middle toe, 26. (No. 222, 502, coll. U. S. Nat. Mus., St. George Island, Alaska, May 25, 1911.)

^f Dalgleish, *Auk*, iii, 1886, 273.

^g Seebohm, *Proc. Zool. Soc. Lond.*, 1886, 82. These two records, which may possibly refer to the same occurrence (I have not now access to the last work cited), were either overlooked or ignored by Professor Cooke in his "Distribution and Migration of North American Gulls and their Allies" (1915, pp. 62–64).

Sredne-Kolymsk (lat. 67° 30' N., long. 155° E.); also in Alazeia and Indigirka basins and Taskhaiakhtag Mountains—possibly also on Bennett Island and Cape Baranof, and other Arctic localities; recorded elsewhere, but not as breeding, from Melville Peninsula (Alagnak, June 23, 1823), Boothia (Felix Harbor), Alaska (Point Barrow, Sept. 9 to Oct. 9 and June 9; St. Michaels, 1 specimen, Oct. 10, 1879; St. George Island, Pribilof group, 1 specimen, May 25, 1911), Wrangell Island, Oct., 1879, and June 22–30, 1880; Kamchatka (2 specimens without date or definite locality; Bering Island, Dec. 10, 1895); lat. 84° 40' north of Spitzbergen, midsummer; Hvidtenland, east of Franz Josef Land, July 14, 15; Barents Sea; New Siberia, Aug. 16, Sept. 5–20; New Siberian Islands, Aug., 1894; Verkhojansk, on Java River, 250 miles inland; casual or accidental on Faroe Islands (Suderoe, Feb. 1, 1863), England (Yorkshire), France (Pointe de la Roche, coast of Verdée, Dec. 22, 1913), Italy (Cagliori Bay, Sardinian Sea, Jan., 1906), and Helgoland (Feb. 5, 1858).

Larus roseus MACGILLIVRAY, Mem. Wern. Soc., v, 1824, 249 (Melville Peninsula, n. Keewatin).—JARDINE and SELBY, Illustr. Orn., i, 1826, pl. 14.

[*Larus*] *roseus* RICHARDSON, Fauna Bor.-Am., ii, 1831, 427, footnote (crit.).—KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xciv, 240.

Rossia rosea BONAPARTE, Geog. and Comp. List, 1838, 62.—GRAY, List Gen. Birds, 1840, 78; ed. 1841, 99.

[*Rhodostethia*] *roseus* BRUCH, Journ. für Orn., 1853, 106 (Kamchatka); 1855, 278 (monogr.).—BONAPARTE, Consp. Av., ii, 1857, 230.

Rhodostethia rosea BREHM, Naumannia, 1855, 295; Vogelf., 1855, 344.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 856.—BAIRD, Cat. N. Am. Birds, 1859, no. 678.—REINHARDT, Ibis, 1861, 18 (Greenland, 1 spec.).—COUES, Proc. Ac. Nat. Sci. Phila., 1862, 311 (monogr.); Check List, 1873, no. 557; 2d ed., 1882, no. 789; Birds Northwest, 1874, 659 (monogr.).—FRITSCH, Vög. Eur., 1870, 471, pl. 57, fig. 9.—SUNDEVALL, Met. Nat. Av. Disp. Tent., 1872, 136.—NEWTON, Arctic Man., 1875, 105.—SAUNDERS, Ibis, 1875, 484 (Kamchatka; descr. young; crit.); Proc. Zool. Soc. Lond., 1878, 208 (monogr.); Journ. Linn. Soc., xiv, 1878, 400 (range); Ibis, 1883, 348; ed. Yarrell's Hist. Brit. Birds, iii, 1884, 572; Man. Brit. Birds, 1889, 643; Cat. Birds Brit. Mus., xxv, 1896, 167 (Greenland; Point Barrow).—PAYER, Austr. Exped., English transl., ii, 1876, 91 (Barents Sea).—DRESSER, Birds Eur., viii, 1877, 343, pl. 594; Bull. Brit. Orn. Club, xvi, 1905, 1906, 41, 97 (delta of Kolyma River, n. e. Siberia, breeding); Ibis, 1906, 610, in text, pl. 20 (eggs); 1908, 514 (Bennett Island; breeding (?); New Siberia).—FEILDEN, Ibis, 1878, 200 (between Novaya Zemlya and Franz Josef Land, summer); Trans. Norwich Soc., iii, 1881, 209 (Barents Sea).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 207 (Cat. N. Am. Birds, no. 676); Nom. N. Am. Birds, 1881, no. 676.—CLARKE (W. E.), Handb. Yorkshire Vertebr., 1881, 81; Ibis, 1898, 262 (Franz Josef Land; breeding (?)).—NELSON, Cruise 'Corwin' in 1881 (1883), 108 (St. Michaels, Alaska, 1 spec., Oct. 10, 1879; Siberian coast near Bering Strait, July 1, 1879; crit.); Rep. N. H. Coll. Alaska, 1887, 55 (St. Michaels; Point Barrow).—BRITISH ORNITHOLOGISTS' UNION, List Brit. Birds, 1883, 192.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 266.—MURDOCH, Exped. Point Barrow, 1885, 123, pls. 1, 2; Auk, xvi, 1899, 146 [145] (historical).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed.,

- 1895, no. 61; 3d ed., 1910, p. 40.—PALMÉN, 'Vega'-Exped., 1887, 352 (Pirtleknj, n. e. Siberia, July 1).—GRAY (R.), Zoologist, 1889, 45 (Greenland Sea, 78° N., 0° 25' E.).—CHAMBERLAIN, in Hagerup's Birds Greenland, 1891, 47.—LILFORD, Col. Figs. Brit. Birds, pts. xxiii, xxvii, 1893.—STEJNEGER, Auk, xv, 1898, 183 (Bering Island, Kamchatka, Dec. 10, 1895).—SCHALOW, Die Vögel der Arktis, 1904, 147 (synonymy, range, etc.).—BUTURLIN, Ibis, 1906, 131-139, in text, 333-337, 661-666 (Kolyma Delta, n. e. Siberia, breeding; descr. breeding grounds, breeding habits, nests and eggs, etc.).—THAYER, Condor, ix, 1907, 179 [-180], cuts (descr. eggs, etc.).—PONCY, Bull. Soc. Zool. Genève, 1908, 199 [-203] (breeding habits in Kolyma, Alazeia, and Indigirka basins, Taskhaiakh-tag Mts., and Cape Baranow, n. e. Siberia).—PREBLE, North Am. Fauna, no. 27, 1908, 270 (Felix Harbor, Boothia).—EVERMANN, Auk, xxx, 1913, 26 (St. George Island, Pribilof group, May 25, 1911).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 11 (not breeding in Kolyma delta in 1912).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 63, fig. 30 (range and migrations).
- [*Rhodostethia*] *rosea* COUES, Key N. Am. Birds, 1872, 317.—SHARPE, Hand-list i, 1899, 139.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 56 (Point Barrow, Alaska).
- R[hodostethia]* *rosea* COUES, Key N. Am. Birds, 2d ed., 1884, 753.—RIDGWAY, Man. N. Am. Birds, 1887, 37.
- Larus rossii* RICHARDSON, App. Parry's Second Voy., 1825, 359 (Melville Peninsula, Keewatin); Fauna Bor.-Am., ii, 1831, 427.—ROSS, App. Parry's Narrative, 1828, 195; App. Parry's Voy., 1828, 195 (Spitzbergen; Waigats Strait). App. Parry's Second Voy., Nat. Hist., 1835, p. xxxvi (Felix Harbor, Boothia).—WILSON (J.), Illustr. Zool., 1831, pl. 8.—NUTTALL, Man. Orn. U. S. and Can. Water Birds, 1834, 295.—AUDUBON, Synopsis, 1839, 323; Birds Am., 8vo ed., vii, 1844, 130 (not figured).—SCHLEGEL, Rev. Crit., 1844, p. cxxviii.—NATMANN, Vög. Deutschl., xiii, 1847, pl. 388, figs. 3, 4; Anhang, xiii, 1860, 270, pl. 388, figs. 1, 2.—MILNER, Zoologist, 1847, 1694 (near Aberford, England).—CHARLESWORTH, Zoologist, 1847, 1782 (Tadcaster, England; crit.).—DEGLAND, Orn. Eur., ii, 1849, 332.—YARRELL, Hist. Brit. Birds, 2d Suppl., 1856, 59; 3d ed., iii, 1856, 558.—EVANS and STURGE, Ibis, 1859, 173 (Waigats Strait, Spitzbergen, to lat. 82° 45').—FISCHER, Naturh. Tidsskr. (3), iii, 1864, Färde Islands).—HARTING, Handb. Brit. Birds, 1872, 173 (British records).—BUNGE, Mém. Biol., xii, livr. 1, 1884, 57 (Lena delta, Siberia).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 306; Trans. Norwich Soc., iv, 1886, 303 (Lena delta).—DALGLEISH, Auk, iii, 1886, 273 (breeding at Ekumuit, district Christianshaab, Greenland; descr. nest and eggs).—GÄTKE, Vogelw. Helgoland, 1891, 580.
- Larus ross* AUDUBON, Orn. Biog., v, 1839, 324 (not figured).
- Larus rossii* MALMGREN, Journ. für Orn., 1863, 452 (Spitzbergen).—NEWTON, Proc. Zool. Soc. Lond., 1872, 1 (Yorkshire, England, 1 spec.).—CORDEAUX, Ibis, 1875, 187 (Helgoland, Feb. 5, 1858).—SEEBOHM, Proc. Zool. Soc. Lond., 1886, 82 (Disko Bay, Greenland, breeding; descr. eggs).
- Rhodostethia rossii* MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 253.—REINHARDT, Vid. Medd. Nat. Forh. Kjobenhavn, 1874, nos. 12-16, 5 (Greenland).—NEWTON, Proc. Zool. Soc. Lond., 1875, 349 (Greenland).
- R[hodostethia]* *rossii* GRAY, Gen. Birds, iii, 1846, 663.
- Rhodostethia rossii* MACGILLIVRAY, Hist. Brit. Birds, v, 1852, 618.—GRAY, List Brit. Birds, 1863, 229.—BLASIUS, Journ. für Orn., 1865, 370.
- [*Rhodostethia*] *rossii* BONAPARTE, Comp. Rend., xlii, 1856, 771.
- Larus richardsonii* LESSON, Compl. Oeuvres Buffon, ix, 1837, 516 (Arctic circle).

Family STERCORARIIDÆ.

THE SKUAS AND JAGGERS.

- =*Lestrinæ* BONAPARTE, Saggio dist. Anim. Vertebr., 1831, 60.
 =*Lestridæ* KAUF, Jardine's Contr. Orn., 1849, 119.
 =*Lestrinæ* BONAPARTE, Consp. Gen. Av., ii, 1857, 206.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 837.—CARUS, Handb. Zool., 1868, 361.—COUES, Proc. Ac. Nat. Sci. Phila., 1869, 213; Key N. Am. Birds, 1872, 308; 2d ed., 1884, 734; Birds Northwest, 1874, 602.—SCLATER and SALVIN, Nom. Av. Neotr., 1873, 148.
 =*Stercorariinæ* GRAY, Hand-list, iii, 1871, 110.—BEDDARD, Struct. and Classif. Birds, 1898, 356.—KNOWLTON, Birds of the World, 1909, 394.
 =*Stercorariidæ* RIDGWAY, Proc. U. S. Nat. Mus., iii, Sept. 4, 1880, 240; Man. N. Am. Birds, 1887, 20.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 191, 328.—STEJNEGER, Standard Nat. Hist., iv, 1885, 75, in text.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 84; 3rd ed., 1910, 33.—SHARPE, Review Rec. Att. Classif. Birds, 1891, 72; Hand-list, i, 1899, xv, 143.—SAUNDERS, Bull. Brit. Orn. Club, no. xxxiii, 1896, p. xxii; Cat. Birds Brit. Mus., xxv, 1896, xiv, 3, 314.—OBERHOLSER, Outl. Classif. N. Am. Birds, 1905, 3.

Medium sized to large Lari with rhamphotheca complex (bill with a cere); caeca well developed, long; coracoids separated; metasternum 2-notched, and claws large, strongly hooked, and sharp.

Bill gull-like in general form, but basal half or more of the culmen covered with a saddle-like "cere," membraneous or horny, according to the season,^a the lower edge of which reaches half way or more to the tomium and is nearly parallel to it, its upper outline straight; culmen strongly decurved from anterior end of the "cere," the tip of the maxilla forming a distinct unguis, overhanging the tip of the mandible; gonys short (decidedly less than half as long as mandibular rami), ascending terminally, its posterior angle more or less prominent; nostril slightly anterior to middle of maxilla, longitudinal, rounded anteriorly, partly overhung (except at anterior extremity) by edge of the "cere;" frontal feathering advancing farther on side of maxilla than at base of culmen, the antia either acute, rounded, or nearly truncate; malar antia more or less posterior to latero-frontal antia, but sometimes nearly on same vertical line, more or less cuneate; mental antia about on same vertical line as posterior end of nostrils or posterior to same. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by about two-thirds (*Stercorarius*) to half (*Megalestris*) the length of the wing. Tail much shorter than wing (except for the elongated middle rectrices in some species), slightly rounded to slightly graduated, the middle pair of rectrices longest, sometimes greatly elongated. Feet strong, the tarsus decidedly longer than middle toe without claw, the acrotarsium regularly transversely scutellate, elsewhere covered with reticulations.

^a See Stejneger, Standard Nat. Hist., iv, 1885, 75.

The Stercorariidæ are more predatory in their habits than the Laridæ being, in fact, the most predaceous of sea-fowl—veritable “robbers of the sea.” The smaller Jaegers (genus *Stercorarius*) pirate upon gulls and other sea-fowl, thus earning the common names of “gull chaser” “jaeger” (hunter), etc.; while the larger skuas (genus *Megalestris*) also beat along the shores or even over the land, and besides forcing gulls and other birds to disgorge or relinquish their food prey upon other birds, in the manner of falcons and hawks. Indeed, it is said that at Kerguelen Island, in the Antarctic Ocean, the *Megalestris antarcticus* keeps strictly to the land, where it is very destructive to ducks and other water-fowl. The nest is placed upon the ground, near the sea-shore on the margin of inland lakes. The eggs are deep olive-brown in color spotted with darker.

KEY TO THE GENERA STERECORARIIDÆ.

- a. Larger and much more strongly built (wing 380 to more than 400 mm.); greatest depth of bill equal to or greater than distance from anterior end of nostril to tip of maxilla; longest primary exceeding distal secondaries by not more than half the length of wing; tarsus shorter than middle toe with claw; tail shorter, the rectrices subtruncate at tip, the middle pair projecting very slightly.... *Megalestris* (p. 674).
- aa. Smaller and more lightly built (wing not more than 370 mm., usually much less; greatest depth of bill decidedly less than distance from anterior end of nostril to tip of maxilla; tarsus longer than middle toe with claw; longest primary exceeding distal secondaries by much more than half the length of wing; tail relatively longer, the middle pair of rectrices elongated.
- b. Bill deeper, its depth at base greater than its width at same point; middle pair of rectrices broad throughout, rounded terminally, their distal half twisted.
Coprotheres (p. 680).
- bb. Bill less deep, its depth at base not greater than its width at same point; middle pair of rectrices tapering, acuminate, not twisted..... *Stercorarius* (p. 686).

Genus MEGALESTRIS Bonaparte.

Catharacta (not *Catarractes* Brisson, 1760) BRÜNNICH, Orn. Bor., 1764, 32. (Type, by monotypy, *C. skua* Brünnich.)

Catharacta (emendation) RETZIUS, ed Fauna Suecica, 1800, 160.

Catharacta (emendation) FLEMING, Philos. Zool., ii, 1822, 263.—GRAY, List Gen. Birds, 1840, 78.

Catarractes (emendation) PALLAS, Zoogr. Rosso-Asiat., ii, 1827, 309.

Catarrhacta (emendation) STRICKLAND, Ann. and Mag. N. H., vii, 1841, 40.

Catarrhactes (emendation) BRUCH, Journ. für Orn., Jan., 1853, 108.

Megalestris BONAPARTE, Compt. Rend., xliii, 1856, 643; Cat. Ois. d' Eur. Parsudati, 1856, 11. (Type, by monotypy, *Larus catarractes* Linnæus = *Catharacta skua* Brünnich.)

Buphagus COUES (ex Moehring, 1752) Proc. Acad. Nat. Sci. Phila., 1863, 124. (Type, by original designation, *Catharacta skua* Brünnich.)

Very large, strongly built Stercorariidæ (wing about 380–432 mm.) with tarsus shorter than middle toe and claw, greatest depth of bill equal to or greater than distance from anterior end of nostril to tip of bill, longest primary exceeding distal secondaries by not more than half the length of wing, and rectrices sub-truncate at tip, the middle pair projecting very slightly if at all beyond the next pair.

Bill stout, the exposed culmen shorter than middle toe without claw, its depth at base equal to or slightly greater than its width at same point and at least equal to one-third the length of exposed culmen; supra-nasal saddle, measured from loreal antia, longer than distance from its anterior end to tip of the strongly decurved or uncinate tip of maxilla; gonys less than half as long as mandibular rami (measured to point of malar antia), rather strongly ascending terminally, faintly concave, its basal angle prominent; nostril with anterior end nearer to tip of maxilla than to loreal antia, the latter on nearly the same vertical line as malar antia or slightly anterior to it, the mental antia decidedly anterior to both. Wing moderately long, the longest primary (outermost) exceeding distal secondaries by not more (sometimes less) than half of the length of wing; primaries broad, rounded at tips, their shafts thick and rigid; secondaries relatively short and broad, with inner webs longer than outer webs; tertials elongated, but falling considerably short of tips of longest primaries. Tail less than half as long as wing, nearly truncate, the rectrices sub-truncate at tips, the middle pair projecting slightly, if at all, beyond the next pair; tail-coverts very long and full, the lower ones reaching to or beyond tips of lateral rectrices. Tarsus as long as middle toe without claw, strong, the lower half or more of the acrotarsium covered with a single series of obliquely transverse scutella, the upper portion with a double row of similar but shorter scutella, the planta tarsi covered with small, irregular scales, the sides of tarsus with larger hexagonal scales; outer toe slightly shorter than middle toe, the inner toe much shorter, the hallux very short; anterior toes fully webbed; claws relatively large, strongly curved, acute, that of middle toe with inner edge dilated.

Coloration.—General color brown or sooty, usually indistinctly streaked with light rusty, cinnamon, or buffy, especially on neck and back; primaries whitish basally.

Range.—Northern portions of North Atlantic and southern parts of South Atlantic oceans, southern parts of Indian Ocean, Antarctic Ocean, seas near New Zealand, and Pacific coast of Chile and Peru. (At least four species or subspecies.)

KEY TO THE SPECIES OF MEGALESTRIS.^a

- a. Bill relatively longer and narrower, with anterior edge of supra-nasal saddle (viewed from above) strongly concave; under parts more or less rufescent, and back streaked or mottled with rufous or cinnamonaceous.

^a Mr. Gregory Mathews (Birds of Australia, ii, 1913, 496) recognizes eight forms of this genus, referred to three species, as follows:

1. *Megalestris skua skua*. (*Catharacta skua skua* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496.—North Atlantic Ocean; Hudson Strait.)
2. *Megalestris skua antarctica*. (*Catharacta skua antarctica* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496.—Falkland Islands, breeding; Gough Island.)

- b. Axillars and under wing-coverts grayish brown, slightly tinged with cinnamon-rufous; under parts more grayish brown than rufescent. (Northern part of North Atlantic Ocean.).....*Megalestris skua* (p. 677).
- bb. Axillars and under wing-coverts mostly cinnamon or cinnamon-rufous; under parts uniform dull cinnamon-rufous or cinnamon. (Both coasts of southern South America, from Rio de Janeiro on Atlantic side to Callao, Peru, on Pacific side.).....*Megalestris chilensis* (extralimital).^a
- aa. Bill relatively shorter and deeper, with anterior edge of supra-nasal saddle (viewed from above) slightly concave; under parts sooty brown to buffy brown (not at all rufescent).
- b. Under parts dark sooty brown; neck not conspicuously, if at all, streaked with yellow; white patch on base of primaries smaller. (Falkland Islands, South Georgia Island, Gough Island, Straits of Magellan, and adjacent seas.
- Megalestris antarcticus* (extralimital).^b

3. *Megalestris ohlensis*. (*Catharacta chilensis* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496.—West coast of South America.)
 4. *Megalestris maccormicki maccormicki*. (*Catharacta maccormicki maccormicki* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496.—South Victoria Land.)
 5. *Megalestris maccormicki wilsoni*. (*Catharacta maccormicki wilsoni* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 495, 496.—Weddell Sea.)
 6. *Megalestris lonnbergi lonnbergi*. (*Catharacta antarctica lonnbergi* Mathews, Novit. Zool., xviii, 1912, 212; New Zealand seas.—*Catharacta lonnbergi lonnbergi* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1916, 484, 494, 496.—*Megalestris antarctica* (not *Lestris antarcticus* Lesson) Mathews, Birds Australia, ii, 1913, pl. [122] facing p. 484.—Australian and New Zealand seas, breeding on Chatham Islands and Antarctic islands of New Zealand.)
 7. *Megalestris lonnbergi intercedens*. (*Catharacta lonnbergi intercedens* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496.—Kerguelen Island.)
 8. *Megalestris lonnbergi clarkel*. (*Catharacta lonnbergi clarkel* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 494, 496.—South Orkney Islands.)
- Of these forms I have seen only the first, third, and seventh.

^a [*Stercorarius antarcticus*] b. *chilensis* Bonaparte, Conspect. Gen. Av., ii, 1857, 207 (South America; coll. Berlin Mus.).—*Stercorarius chilensis* Saunders, Proc. Zool. Soc. Lond., 1876, 323, pl. 24 (monogr.); 1877, 800 (Straits of Magellan); Cat. Birds Brit. Mus., xxv, 1896, 318.—*Megalestris chilensis* Ridgway, Man. N. Am. Birds, 1887, 21.—*Catharacta chilensis* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496.

^b *Lestris antarcticus* Lesson, Traité d'Orn., 1831, 616 (Falkland Islands).—*Stercorarius antarcticus* Gray, List Birds Brit. Mus., Anseres, 1844, 167; Saunders, Proc. Zool. Soc. Lond., 1876, 321, part (monogr.).—*Catharacta antarctica* Bonaparte, Naumannia, 1854, 210.—*Catharactes antarcticus* Bruch, Journ. für Orn., 1853, 108.—*Catharacta antarctica* Lönberg, Kungl. Svensk. Vet. Handl., Bd. 40, no. 5, 1906, 58 (South Georgia Island; crit., habits, etc.).—*Megalestris antarcticus* Gould, Proc. Zool. Soc. Lond., 1859, 98 (Falkland Islands).—*Megalestris antarctica* Saunders, Cat. Birds Brit. Mus., xxv, 1896, 319, part (Inaccessible Island, off Tristan da Cunha; Falkland Islands).—*Megalestris skua antarctica* (not of Baird, Brewer, and Ridgway, 1884.) Mathews, Birds Australia, ii, 1913, 496 (Falkland Islands, breeding; Gough Island).—*Buphagus antarcticus* Coues, Proc. Ac. Nat. Sci. Phila., 1863, 127 (monogr.); Birds Northwest, 1874, 604, part (monogr.).—*Lestris antarctica* Sclater and Salvin, Ibis, 1869, 284 (Santa Magdalena, Straits of Magellan).—*Megalestris skua falklandica* Lönberg, Schwed. Sud. Exped., Bd. v, Lfg. 5, 1905, 8.

bb. Under parts pale buffy brown; neck conspicuously streaked with yellow; white area at base of primaries larger. (South Victoria Land, Weddell Sea, and adjacent part of Antarctic Ocean.)

Megalestris maccormicki (extralimital).^a

MEGALESTRIS SKUA (Brünnich).

SKUA.

Adults (sexes alike).^b—General color dull grayish brown, the interscapulars, scapulars, and wing-coverts with median streaks of pale cinnamon, the feathers of head and neck with similar but narrower streaks; under parts somewhat paler than upper parts, usually more or less suffused with cinnamon, the sides and flanks indistinctly striped or broadly streaked with the same; remiges, primary coverts, and alula dark grayish brown or dusky, the primaries white basally, forming a distinct patch, the concealed basal portion of secondaries also white; tail uniform dusky; bill dusky horn color or dull blackish; iris dark brown; legs and feet dull blackish.

Young.—Head, neck, and under parts plain grayish brown, the last tinged with cinnamon or dull rusty; upper parts darker grayish brown, paler on back and lesser wing-coverts, where indistinctly spotted with dull rusty or cinnamon; otherwise essentially like adults, but bill, legs, and feet more brownish.

Downy young.—Plain buffy or cinnamomeous gray, darker (sometimes more cinnamomeous) on upper parts.

Adult male.—Wing, 400; tail, 52; culmen, 20.5; tarsus, 61–69.8 (65.2); middle toe, 54.5–63.5 (59.3).^c

Adult female.—Wing, 406.5; tail, 53.5; culmen, 22.5; tarsus, 69.5; middle toe, 64.5.^d

Breeding in Iceland, Faroe Islands, and Shetland Islands; during migration occurring off coasts of Greenland (south side of Olrik Bay; off Disko Island; Ivigtut), Lady Franklin Island north of Hudson Strait, eastern portion of Hudson Strait, Mackenzie (Mackenzie River), Labrador (Strait of Belle Isle, June 22, 1852), Newfoundland (Grand Banks), Massachusetts (Georges Bank; Nantucket Sound, 2 specimens, Oct. 17, 1883; Nantucket Shoals, Oct. 11, 1883; off Cape Cod, Sept. 10, 1884; Gloucester, July 18, 1878;

^a *Stercorarius maccormicki* Saunders, Bull. Brit. Orn. Club, no. xiii, Dec. 30, 1893, p. xii; Ibis, 1894, 291 (Possession Island, Victoria Land; coll. Brit. Mus.).—*Megalestris maccormicki* Saunders, Cat. Birds Brit. Mus., xxv, 1896, 321, pl. 1.—*Catharacta maccormicki maccormicki* Mathews, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496 (South Victoria Land, breeding).

^b There seems to be no seasonal differences of plumage in the Skuas other than those dependent on relative freshness or wearing of the feathers.

^c Three specimens.

^d One specimen, from Faroe Islands. A specimen of undetermined sex from the Faroes measure as follows: Wing, 410; tail, 52; culmen, 20.5; tarsus, 68.5; middle toe, 62.5.

Ipswich Bay, Sept. 17, 1878; Woods Hole, Sept. 19, 1889) and New York (Suffolk County, Long Island, March 17, 1886; Amagansett, Long Island, winter of 1885-86; Niagara River, spring of 1886; Montauk, Aug. 10, 1896), and in Europe southward to England (Devonshire), southwestern France, Straits of Gibraltar, Madeira Islands (Nov.), and Poland. (Recorded from Aleutian Islands and from Monterey Bay, California, but probably erroneously, at least as far as correct identification is concerned, the Monterey specimens, at least, being more likely *M. chilensis*.)

[*Catharacta*] *skua* BRÜNNICH, Orn. Bor., 1764, 33 (Faroe Islands; Iceland).

Catarracta skua RETZIUS, Fauna Suecica, 1800, 161.—BONAPARTE, Cat. Mèth.

Ucc. Eur., 1842, 79.—GRAY, List Gen. Birds, 1840, 78.—REICHENBACH,

Av. Syst. Nat., Longipennes, 1852, pp. 4, 5.—BREHM, Naumannia, 1855, 233.

Cataracta skua BONAPARTE, Geog. and Comp. List, 1838, 63.

Catarractes skua PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 309.

Cataractes skua STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 215.—MACGILLIVRAY, Man. Brit. Orn., ii, 1842, 255.—BRUCH, Journ. für Orn., 1853, 106.

Catharacta skua skua MATHEWS, Birds Australia, ii, pt. 5, Jan. 31, 1913, 496 (North Atlantic Ocean; Hudson Straits).

Lestris skua BOIE, in Wiedemann's Zool. Mag., i, 1819, 132.—BREHM, Isis, 1830, 992; Vög. Deutschl., 1831, 716; Vogelf., 1855, 336.

Buphagus skua COUES, Proc. Ac. Nat. Sci. Phila., 1863, 125 (monogr.); Proc. Essex Inst., v, 1868, 305 (New England coast?).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 94 (lat. 41° N., long. 68° W.; Lady Franklin Island, Sept., with young).

[*Buphagus skua*] *a. skua* COUES, Birds Northwest, 1874, 604 (monogr.).

[*Stercorarius*] *skua* BONAPARTE, Naumannia, 1854, 210.—COUES, Key N. Am. Birds, 1872, 309.

Stercorarius skua COUES, Check List, 1873, no. 539; 2d ed., 1882, no. 764.—COLLINS, Auk, i, 1884, 238 (Grand Banks, etc.; habits; Nantucket Sound, Massachusetts, 2 specs., Oct. 17, 1883).—HARTERT, Katal. Vogelsamml. Senckenb., 1891, 243.

[*Stercorarius*] *skua* COUES, Key N. Am. Birds, 2d ed., 1884, 734.

Megalestria skua RIDGWAY, Proc. U. S. Nat. Mus., iii, sig. 13, Aug. 24, 1880, 308 (Cat. N. Am. Birds, no. 696); Nom. N. Am. Birds, 1881, no. 696.—COLLINS, Rep. Com. Fish and Fisheries for 1882 (1884), 323 (Grand Banks, etc., Newfoundland; habits).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 328.—GOSS, Auk, i, 1884, 395 (off Cape Cod, Massachusetts, 1 spec., Sept. 10, 1884).—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 252 (Straits of Belle Isle, 1 spec., June 22).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 35; 3d ed., 1910, p. 33.—DUTCHER, Auk, iii, 1886, 432 (Suffolk Co., Long Island, New York, 1 spec., March 17, 1886); iv, 1887, 158 (Nantucket Shoals, Massachusetts, Oct. 11, 1883).—HAGERIT, Birds Greenland, 1891, 45.—CHAPMAN, Bull. Am. Mus. N. H., xii, 1899, 24 (s. side Olrik Bay and off Disko Island, Greenland).—SCHALOW, Vögel der Arktis, 1904, 131 (synonymy, range, etc.).—(?)BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 61 (Monterey Bay, California, 1 spec., Aug. 7, 1907).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 5, fig. 1 (range and migrations).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 20 (coast California; rare visitant.*

* May be *M. chilensis*. There is no authentic record for *M. skua* from any part of the Pacific Ocean.

- [Megalestris] skua* RIDGWAY, Man. N. Am. Birds, 1887, 21.
- [Larus] catarractes* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 226 (Arctic regions).—GMELIN, Syst. Nat., i, pt. ii, 1789, 603.—LATHAM, Index Orn., ii, 1790, 818.
- Larus catarractes* YARRELL, Brit. Birds, iii, 1843, 481.
- Lestris catarractes* ILLIGER, Prodr. Orn., 1811, 272.—TEMMINCK, Man. d'Orn., 1815, 511; 2d ed., ii, 1820, 792.—FABRICIUS, Prodr. Isl. Orn., 1822, 102.—BOIE, Isis, 1822, 562.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 364.—HEWITSON, Eggs Brit. Birds, ii, [1831-1838], pl. 56 and text; 2d ed., 1846, 451, pl. 129; 3d ed., 1856, 505, pl. 142.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 312 (Newfoundland).—ERTON, Cat. Brit. Birds, 1836, 51.—GOULD, Birds Europe, v, 1837, pl. 439 and text.—SCHINZ, Eur. Faun., i, 1840, 387.—SCHLEGEL, Rev. Crit., 1844, 84; Vog. Nederl., 1858, 587, pl. 334; Dier. Nederl. Vogels, 1861, 231, pl. 33, figs. 9, 9a.—MACGILLIVRAY, Brit. Birds, v, 1852, 479.
- Stercorarius catarractes* GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 168.—(?) LAWRENCE, Ann. Lyc. N. Y., vi, 1853, 7 (off coast California, lat. of Monterey);^a in Baird, Rep. Pacific R. R. Surv., ix, 1858, 838 (off coast of California).^a—SCHLEGEL, Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 45 (Iceland, Faroes).—BLAKISTON, Ibis, 1863, 151 (Mackenzie River).—DEGLAND and GERBE, Orn. Eur., 2d ed., ii, 1867, 392.—ELLIOT, Illustr. New and Unfig. N. Am. Birds, ii, 1869, pl. 55 and text.—FEILDEN, Zoologist, 1872, 3290, (Faroe Islands).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 319 (monogr.).—BREWER, Bull. Nutt. Orn. Club, iii, 1878, 188 (Gloucester, Massachusetts, 1 spec., July 18, 1878); Proc. Bost. Soc. N. H., xx, 1879, 275 (Georges Bank, off Newfoundland).
- [Stercorarius] catarractes* BONAPARTE, Compt. Rend., xlii, 1856, 770; Consp. Av., ii, 1857, 206.
- Larus catarractes* TEMMINCK, Cat. Syst., 1807, 187.
- Lestris catarractes* BOIE, Isis, 1822, 875.—LESSON, Traité d'Orn., 1831, 616.—NAUMANN, Vög. Deutschl., x, 1840, 470, pl. 270.—SCHALOW, Journ. für Orn., 1891, 263 (Aleutian Islands).
- [Lestris] catarractes* JENYNS, Man. Brit. Vert. Anim., 1835, 280.—TEMMINCK, Man. d'Orn., ed. 2, iv, 1840, 494.
- Stercorarius catarractes* SELYS-LONGCHAMPS, Faune Belge, 1842, 155.
- Lestris catharractes* SCHINZ, Eur. Faun., i, 1840, 387.
- Lestris catarrhactes* KAUP, Sk. Entw. Eur. Thierw., 1829, 739.—WOLLEY, Jardine's Contr. Orn., 1850, 113 (Faroe Islands).—REINHARDT, Journ. für Orn., 1854, 442 (Greenland).—DROSTE, Journ. für Orn., 1869, 383 (Faroes).
- [Lestris] catarrhactes* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xciv, 239.
- Stercorarius catarrhactes* VIEILLOT, Nouv. Dict. d'Hist. Nat., iv, 1817, 154; Faun. Franç., 1838, 385.—DEGLAND, Orn. Eur., ii, 1849, 289.—REINHARDT, Ibis, 1861, 16 (Greenland); Vid. Medd. Nat. Forh. Kjobenhavn, 1881, 186 (Greenland).—GRAY, List Brit. Birds, 1863, 227.—NEWTON, in Baring-Gould's Iceland, 1863, App. A., 418.—BLASIUS, Journ. für Orn., 1865, 384 (crit.).—SAUNDERS, Ibis, 1871, 400 (Straits Gibraltar); 1884, 391 (s. w. France); Proc. Zool. Soc. Lond., 1876, 319 (monogr.); Journ. Linn. Soc., xiv, 1878, 392 (range); ed. Yarrell's Brit. Birds, iii, 1884, 662; Illustr. Man. Brit. Birds, 1889, 671.—GOULD, Birds Great Brit., v, 1873, pl. 78 and text.—DRESSER, Birds Europe, viii, 1875, 457, pl. 609.—CLARKE (W. E.), in Clarke and Reebuck, Handb. Vert. Faun. Yorkshire, 1881, 84.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 346, pl. 55 (eggs).—TACZANOWSKI, Ornith., iv, 1888, 508 (Poland).—STEVENSON and SOUTHWELL, Birds Norfolk, iii, 1890, 346.—HARVIE-BROWN and BUCKLEY, Vertebr. Faun. Argyll, etc., 1892, 194.—BLAGG, Ibis, 1893, 357 (Shetland Islands, breeding).

^a See foot note on p. 678.

- S[tercorarius] catarrhactes* GRAY, Gen. Birds, iii, 1846, 652.
Megalestria catarrhactes SAUNDERS, Cat. Birds Brit. Mus., xxv, 1896, 315 (Devonshire, England; Shetland; Faroe Islands), 458 (Faroes).—NICOLL, Ibis, 1904, 33, in text (Madeira Islands, Nov.).
 [*Megalestria*] *catarrhactes* SHARPE, Hand-list, i, 1899, 143.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 58 (Shetland Islands).
Catarracta fusca LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 40; in Thompson's Ann. Philos., xiii, 1819, 61 (Faroe Islands).
Lestris fusca DUBOIS (C. F.), Pl. Col. Ois. Belg., iii, 1860, 238 and plate.
Stercorarius fuscus DUBOIS (A.), Consp. Av. Eur., 1871, 33; Bull. Mus. Roy. Belg., iv, 1885, 22.
 [?] [*Larus*] *keesk* LATHAM, Index Orn., ii, 1790, 818 (Hudson Bay; based on *Esquimeux Keesk* Latham, Synopsis Birds, vi, 389; Pennant, Arctic Zool., ii, 71).
Stercorarius pomarinus (not *Lestris pomarinus* Temminck) VIEILLOR, Gal. Ois., ii, 1834, 220, pl. 288.
[Catarractes] vulgaris FLEMING, Hist. Brit. Anim., 1828, 137.
Catarractes vulgaris SELBY, Illustr. Brit. Orn., ii, 1832, pl. C; text, ii, 1833, 514.
Catarracta minor BREHM, Naumannia, 1855, 293 (*nomen nudum*).

Genus COPROTHERES Reichenbach.

- ??*Pomarinus*^a FISCHER DE WALDHEIM, Nationalmus. Naturg. zu Paris, ii, 1803, 185.
 (Type, by monotypy, *P. fuscus* Fischer=?*Lestris pomarinus* Temminck.)
Coprotheres REICHENBACH, Av. Syst. Nat., 1850, pl. 5; Nat. Syst. Vög., Longipennes, 1852 (1853), p. v. (Type, *Lestris pomarinus* Temminck.)

Medium-sized Stercorariidæ (wing about 350-375 mm.) with middle pair of rectrices projecting conspicuously beyond the rest, broad throughout, with tips broadly rounded or subtruncate, twisted semi-vertically for distal half, and depth of bill at base greater than its width at same point.

Bill much shorter than head, the exposed culmen shorter than middle toe without claw, about three-fourths as long as tarsus, its depth at base slightly exceeding its width at same point. Wing long and pointed, the longest primary (outermost) exceeding distal secondaries by more than half the length of folded wing; primaries tapering distally, their tips pointed. Tail slightly graduated, less than half as long as wing, the rectrices broad and subtruncate at tips, including middle pair, which project more or less (usually about 75 mm.) beyond the rest and are twisted so that the plane of their distal portion forms an angle of 45°, more or less, to the plane of their basal portion. Tarsus much longer than middle toe without claw, the acrotarsium covered by a single series of transverse scutella, except on upper portion where these are replaced by irregular smaller scales, similar to those covering sides of tarsus, these largest on outer side, the planta tarsi covered with smaller tubercle-like conical or spicular scales; outer toe nearly as long as middle toe, the inner much shorter; hallux very short, its claw acute and but slightly curved; claws of anterior toes relatively large, strongly curved, that of inner

^a Πῶμα, a lid, cover; ῥίς (ῥιός), nose. (Richmond.)

toe largest; anterior toes fully webbed, the anterior margin of web not at all incised.

Plumage and coloration.—Plumage in general full and blended, the feathers of neck, however, hair-like, though full and dense, and those of occiput and nape somewhat elongated. Coloration extremely variable, sometimes entirely dusky, but usually dusky above and with more or less white on under parts, the postero-lateral portions of neck yellowish.

Range.—Circumpolar regions, southward in winter as far as Peru, Africa, Australia, etc. (Monotypic.)

COPROTHERES POMARINUS (Temminck).

POMARINE JAEGER.

Adults, light-colored phase (sexes alike).—Pileum, lores, and malar region, together with upper parts, except nape and hindneck, plain dark sooty gray; anal region and under tail-coverts lighter brownish gray, sometimes intermixed with whitish; rest of head and neck, including hindneck, together with under parts of body, immaculate white, the auricular region and sides of nape more or less strongly tinged with straw yellow; bill dull brownish (whitish in life), its terminal third (approximately) black; iris dark brown; legs and feet blackish, the upper portion of tarsus pale bluish (in life).

Adults, intermediate phase (sexes alike).—Similar to the light-colored phase but chest and hindneck barred or transversely spotted with dusky, and lateral under parts irregularly barred with the same.^a

Adults, dusky phase (sexes alike).—Entirely plain dark sooty grayish brown, with a slaty cast in certain lights, the auricular region sometimes (usually?) tinged with yellowish.

Young, light-colored phase.—Head, neck, and under parts dull buff, everywhere barred with dusky, the bars broad and sharply defined on under tail-coverts and flanks, indistinct on head and neck; upper parts dusky grayish brown, the scapulars and interscapulars tipped with buff, the rump and upper tail-coverts spotted with the same.

Young, dusky phase.—Entirely sooty grayish brown, the breast, abdomen, and sides narrowly and rather indistinctly, the under and upper tail-coverts broadly and sharply barred with buff.

Downy young.—Immaculate grayish brown (between benzo brown and deep brownish drab) passing into paler (between benzo brown and drab) on chin and under parts of body; bill brownish, the legs and feet much paler brownish.

^a The majority of specimens are of this intermediate phase, the two extremes being comparatively rare. A large series shows every gradation between the two extremes.

Adult male.—Wing, 349–374 (361.9); tail, 172–243 (207.9)^a; exposed culmen, 38–43.5 (40.4); tarsus, 48–54 (52); middle toe, 42–47 (44.6).^b

Adult female.—Wing, 351–370 (359.7); tail, 128–205.5^a (181.2); exposed culmen, 38–44 (40.2); tarsus, 50–55 (52.1); middle toe, 42–48 (46.1).^c

Breeding on western coast of Greenland (from lat. 64° N. to Upernavik, lat. 73° N.), North Somerset Island (Fury Point), coast of Mackenzie (Cape Lisburne; Cape Bathurst; Franklin Bay; mouth of Anderson River), Melville Peninsula (Igloodik), Baffin Land (Exeter Sound), and northern coast of Alaska (Point Barrow; Cape Lisburne)—probably also on Melville Island—also in Arctic districts of Eastern Hemisphere (Novaya Zemlya; Kanin Peninsula; Yenesei River; Golchika), as far northward as lat. 83°, north of Spitzbergen; recorded also, but not as breeding, from Melville Island, Whalefish Islands, Spitzbergen, Jan Mayen Land, Lutke Land, Great Liakoff Island, Aleutian and Pribilof Islands, Bering Strait, Hudson Strait, and many other Arctic localities; migrates southward as far as Galápagos Archipelago (off North Albemarle Island, Dec. 15, 1897), coast of Peru (Callao Bay, Dec., Nov. 17, 1883), Madeira, Atlantic coast of southern Africa (Walvisch Bay), coast of Burma, and northern Australia.^d

^a Measurements of the tail are of the middle pair of rectrices, which vary greatly in their development.

^b Ten specimens.

^c Nine specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Eight adult males from northern Atlantic coast of North America.....	359.4	206.1	40.1	50.3	44.6
Two adult males from Alaska.....	372	215	40.2	52.2	44.5
FEMALES.					
Eight adult females from northern Atlantic coast of North America.....	358.4	181.5	40	52	45.1
One adult female from Alaska.....	370	179	41.5	52.5	45

^d Records in United States are, in part, as follows:

Massachusetts: Near Lynn, July 5, 1889.

Rhode Island: Block Island, Oct. 11, 1895.

New York: Little and Great Gull islands, Aug. 6–16, 1888, common; Ossining, Oct. 18, 1877; Montauk, Oct. 30, 1889.

New Jersey: Long Beach, Dec., 1876; Andalusia.

Pennsylvania: Peach Bottom, Lancaster County, July 11, 1869.

- Larus keeask* LATHAM, Index Orn., ii, 1790, 818, part.
- ??*Pomarinus fuscus* FISCHER DE WALDHEIM, Nationalmus. Nat. zu Paris, ii, 1803, 185 (coll. Paris Mus.).—RICHMOND, Proc. U. S. Nat. Mus., xxxv, 1908, 635 (original descr. reprinted).
- L[arus] crepidatus* (not of Banks, 1773) BONNATERRE, Tabl. Encyc. Méth., i, 1791, 86.
- Larus parasiticus* (not of Linnseus, 1758) WOLF and MEYER, Naturg. Vög. Deutschl., ii, Heft 21, 1805, 70, fig.—MEYER and WOLF, Taschenb., ii, 1810, 490, 492.
- Lestris parasiticus* NILSSON, Orn. Suec., 1817, 181, 184, part.—VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 39 (Bering Straits).
- Lestris pomarinus* TEMMINCK, Man. d'Orn., 1815, 514 (Arctic regions; coasts of Holland and France); 2d ed., ii, 1820, 793; iv, 1840, 495.—FABER, Prodr. Orn., 1822, 104.—BOIE, Isis, 1822, 562.—BREHM, Lehrb. Eur. Vög., 1823, 741, 991.—RICHARDSON, Parry's Second Voy., Suppl., 1825, 361 (Igloodik, Melville Peninsula).—ROSS (J. C.), Parry's Third Voy., App., 1826, 105 (Whale-fish Islands); Narr. North Pole in 1827 (Parry), 1828, 196 (lat. 82° N.).—LESSON, Man. d'Orn., 1828, 388; Traité d'Orn., 1831, 616.—KAUP, Sk. Entw. Eur. Thierw., 1829, 63, 64.—AUDUBON, Orn. Biog., iii, 1835, 396; v, 1839, 643; Synopsis, 1839, 332; Birds Am., 8vo ed., vii, 1844, 186, pl. 451.—GOULD, Birds Europe, v, 1837, pl. 440 and text.—BONAPARTE, Geog. and Comp. List, 1838, 63; Cat. Met. Ucc., 1842, 80; Rev. Crit., 1850, 202.—NAUMANN, Vög. Deutschl., 1840, 470, pl. 270.—SCHLEGEL, Rev. Crit., 1844, 84.—DE KAY, Zool. New York, Birds, 1844; 316, pl. 133, fig. 292.—GRAUD, Birds Long Is., 1844, 366.—THOMPSON, Nat. Hist. Ireland, iii, 1851, 392.—MACGILLIVRAY, Brit. Birds, v, 1852, 487.—MIDDENDORFF, Reise Sibir., ii, 1853, 240.—DES MURS, Traité d'Ool., 1860, 551.—NEWTON, Proc. Zool. Soc. Lond., 1861, 401, pl. 39, fig. 3 (habits; descr. and col. fig. egg).—BLASIUS, List Birds Europe, 1862, 23.—JERDON, Birds India, iii, 1864, 828 (Burmese coast).—COLLETT, Forh. Vid. Selsk. Christiania, 1872 (1873), 298 (n. Norway).
- L[estris] pomarinus* JENYNS, Man. Brit. Vertebr. Anim., 1835, 281.—KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xciv, 240.—WARREN, Zoologist, 1875, 4699 (Killala Bay, Ireland).
- [Lestris] pomarinus* BONAPARTE, Conspect. Av., ii, 1857, 207.
- L[estris] pomarina* TEMMINCK, Man. d'Orn., 2d ed., iv, 1840, 495.
- Lestris pomarina* BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 364.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 429.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 315.—AUDUBON, Birds Am., fol. ed., iii, 1835, pl. 253.—SCHINZ, Eur. Faun., i, 1840, 388.—SCHLEGEL, Vog. Nederl., 1854-58, 588, pl. 335.—BREHM (L.), Naumannia, 1855, 294.—BREHM (C. L.), Vogelfang, 1855, 336.—DROSTE, Journ. für Orn., 1869, 383 (Faroe Islands).—HOMEYER, Journ. für Orn., 1870, 436 (e. Siberia).—FINSCH, Verh. K. K. Zool.-bot. Ges. Wien, 1879, 276 (tundra of Podarata, w. Siberia).—WALTER, Journ. für Orn., 1890, 250 (e. Spitzbergen).—SCHALOW, Journ. für Orn., 1891, 263 (Kamchatka, Aleutian Islands, etc.).—CLARKE (W. E.), Ibis, 1899, 49 (King Charles Islands, Barents Island, and Olga Straits, e. Spitzbergen).

Ohio: Cleveland, common in migration, rare in winter; Sandusky, Oct., 1889; Lorain, 1 specimen (no date).

Michigan: Detroit, May 30, 1879.

Illinois: Evanston; near Chicago, Oct. 9, 1876.

Nebraska: Fremont, May, 1873; North Platte, Nov. 11, 1895.

California: San Francisco Bay; Monterey Bay, Aug. 1, 1892; July 31, 1894; Nov. 1, 1896.

There are no records, apparently, for any locality in Mexico, Central America, or West Indies, nor Bermudas.

[*Lestris*] *pomarina* REINHARDT, Journ. für Orn., 1854, 442 (Greenland).—HOMER, Orn., 1885, 80.

Stercorarius pomarinus VIEILLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 153: Faune Franc., Ois., 1828, 387, pl. 159.—RANZANI, Element. Zool., iii, 1828, 55.—SELYS-LONGCHAMPS, Faune Belge, 1842, 155.—DEGLAND, Orn. Eur., ii, 1849, 291.—SCHLEGEL, Vog. Nederl., 1854-58, pl. 336; Mus. Pays-Bas, vi, no. 23 (Lari), 1863, 47.—LAWRENCE, in Baird, Rep. Pacific R. R. Surv., ix., 1858, 838.—BAIRD, Cat. N. Am. Birds, 1859, no. 653.—REINHARDT, Ibis, 1861, 16 (Greenland).—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 243 (Labrador; habits); 1863, 129 (monogr.); Proc. Essex Inst., v, 1868, 305 (New England winter).—ROSS (B.), Nat. Hist. Review, 1862, 289 (Great Slave Lake, very rare).—BOARDMAN, Proc. Bost. Soc. N. H., 1863, 130 (Maine).—BLAKISTON, Ibis, 1863, 152 (Mackenzie River; Hudson Bay).—GRAY, List Brit. Birds, 1863, 227.—WRIGHT, Ibis, 1864, 151 (Malta).—ALLEN, Proc. Essex Inst., iv, 1864, 90 (Massachusetts Bay, winter).—MALMGREN, Journ. für Orn., 1865, 270 (Spitzbergen).—DODERLEIN, Avif. Moden. e. Sicil., 1869, 231.—TURNBULL, Birds E. Penn. and N. J., 1869, 47.—GURNEY, in Andersson's Birds Damara-Land, 1872, 357.—IRBY, Orn. Straits Gibralt., 1875, 216.—BAIRD, BREWER, and RIDGWAY, Water Birds, ii, 1884, 332.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 349.—DUBOIS (A.), Bull. Mus. Belg., iv, 1886, 22.—FISCHER and PELZELN, MT. Orn. Ver. Wien, x, 1886, 210 (Jan Mayen Land).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 36; 3d ed., 1910, p. 34.—TURNER, Contr. N. H. Alaska, 1886, 122 (St. Michaels, in summer; habits).—NELSON, Rep. N. H. Alaska, 1887, 46 (mouth of Yukon River to Point Barrow; habits).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 98 (St. Paul Island, Pribilof group, June 16).—STEJNEGER, Proc. U. S. Nat. Mus., x, 1887, 125 (Bering Island).—TACZANOWSKI, Orn., 1888, 508 (Poland, 1 spec.); Mém. Acad. St. Petersb. (7), xxxix, 1893, 1061 (e. Siberia).—SEEBOHM, Ibis, 1888, 349 (Great Lisakoff Island); Birds Japanese Emp., 1890, 289.—DUTCHER, Auk, vi, 1889, 125 (Little and Great Gull Islands, New York, Aug., common).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 87 (San Francisco, California).—CLARKE (W. E.), Auk, vii, 1890, 320 (Fort Churchill, Keewatin); Zoologist, 1890, 48 (Jan Mayen Land).—PALMER (W.), Proc. U. S. Nat. Mus., xiii, 1890, 253 (Straits Belle Isle).—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 417 (Arctic America).—HAGERUP, Birds Greenland, 1891, 45.—BEALEPSCH and STOLZMANN, Proc. Zool. Soc. Lond., 1892, 400 (Callao, Peru).—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 146 (Disko Island, Greenland); Birds E. Penn. and N. J., 1894, 41 (coast New Jersey and e. Pennsylvania).—FINN, Ibis, 1893, 233 (Straits Gibraltar).—HARTWIG, Journ. für Orn., 1893, 3, 12 (Madeira).—ROTHSCHILD and HARTERT, Novit. Zool., vi, 1899, 192 off North Albemarle Island, Galapagos, 1 spec., Dec. 15; crit.; ix, 1902, 418 (Galapagos; accidental).—LOOMIS, Proc. Calif. Ac. Sci., 3d ser., Zool., ii, no. 3, 1900, 317 (Monterey Bay, California).—SNODGRASS and HELLER, Proc. Wash. Ac. Sci., v, 1904, 236 (Galapagos; 1 spec.).—JONES (L.), Wilson Bull., no. 57, 1906, 113 (Cleveland, Ohio, common in migration, rare in winter); xxi, 1909, 68 (Lorain, Ohio, 1 spec.; Sandusky, Ohio, 1 spec., Oct., 1889).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 7, fig. 2 (range and migration).—GRINNELL, Pacific Coast Avif., no. 11, 1915, 29 (coast California, common fall visitant).—THAYER and BANGS, Auk, xxxiii, 1916, 45 (Saghalin Island, Japan, July).

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- [*Lestris*] *pomatorhinus* SOLATER, Ibis, 1862, 297 (derivation of name).
- Lestris pomatorhina* HEUGLIN, Ibis, 1872, 65 (Novaya Zemlya; Waigats); Journ. für Orn., 1872, 125 (Novaya Zemlya; Waigats).
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- S[*tercorarius*] *pomatorhinus* NELSON, Bull. Essex Inst., viii, 1876, 145 (Lake Michigan, near Chicago, Oct. 9, 1876, and near Evanston, Illinois).—COUES, Key N. Am. Birds, 2d ed., 1884, 735.
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- [*Lestris*] *striatus* EYTON, Cat. Brit. Birds, 1836, 51 (ex *Stercorarius striatus* Brisson, Orn., vi, 152, pl. 13, fig. 2, =young).
- Stercorarius striatus* OLPHÉ-GALLIARD, Orn. Eur. Occid., fasc. x, 1886, 7.
- Stercorarius catarractes* (not *Lestris catarractes* Illiger) WRIGHT, Ibis, 1864, 150 (Malta).
- [*Lestris pomarinus*] a. *fuscus* BONAPARTE, Consp. Gen. Av., ii, 1857, 208.

Genus STERCORARIUS Brisson.

- Stercorarius* BRISSON, Orn., vi, 1760, 149. (Type, by tautonymy, [*Stercorarius*] *stercorarius* Brisson = *Larus parasiticus* Linnæus.)
- Lestris* ILLIGER, Prodromus Orn., 1811, 272. (Type, *Larus parasiticus* Linnæus.)
- Prædatrix* VIEILLOT, Analyse, 1816, 65. (Type, *Labe* Buffon = *Larus parasiticus* Linnæus.)
- Oceanus* (not of Montfort, 1806) KOCH, Syst. baier. Zool., 1816, 380. (Type, *Larus parasiticus* Linnæus.)
- Atalolestis* MATHEWS, Birds Australia, ii, pt. 5, Jan. 31, 1913, 500. (Type, by original designation, *Stercorarius longicaudus* Vieillot.)

Small Stercorariidæ (wing 295–342 mm.) with elongated middle pair of rectrices tapering and pointed terminally, not twisted, and depth of bill at base not greater than its width at same point.

Bill relatively small, much shorter than head, the exposed culmen decidedly shorter than middle toe without claw, its depth at base

not greater than its width at same point. Wing long and pointed, the outermost primary decidedly longest and exceeding distal secondaries by more than half the length of wing; primaries tapering terminally, pointed at tips. Tail less than half as long as wing (except middle pair of rectrices), nearly truncate, the rectrices with broadly rounded ends but with extreme tips submucronate; middle pair of rectrices elongated (sometimes greatly so), tapering to their acuminate tips, their plane horizontal throughout. Tarsus as long as or longer than middle toe with claw, rather slender, the acrotarsium with a single row of transverse scutella, except extreme upper portion, the planta tarsi with small, roughened or spiculate scales, the sides of tarsus with larger, less prominent scales; outer toe nearly as long as middle toe, the inner toe decidedly shorter; hallux very short; claws moderately large, rather strongly curved and acute; anterior toes fully webbed, the anterior margin of the webs not at all incised.

Coloration.—Adults with upper and anterior portions of head dusky, the rest of head, and neck, straw yellowish; upper parts plain grayish brown or brownish gray, darker on primaries and tail; under parts white anteriorly, shading into brownish gray posteriorly. Young more or less barred. (One species with a dusky phase, immaculate in adults, barred with rusty or cinnamonaceous in young.)

Range.—Circumpolar regions, southward in winter as far as Persian Gulf, Cape of Good Hope, Australia, Galápagos Archipelago, southern Brazil, etc. (Two species.)

KEY TO THE SPECIES OF STERCORARIUS.

a. Length of supra-nasal saddle decidedly greater than distance from its anterior end to tip of maxillary unguis; middle pair of rectrices 164-235 mm. long; tarsi black, like feet. (Circumpolar regions, southward in winter as far as Brazil, Cape of Good Hope, Australia, Galapagos Archipelago, etc.)

Stercorarius parasiticus (p. 687).

aa. Length of supra-nasal saddle not greater than distance from its anterior end to tip of maxillary unguis; elongated middle pair of rectrices 238-368 mm. long; tarsi light-colored (bluish in life), in contrast with black of feet. (Circumpolar regions, southward in winter to Gibraltar, Japan, New England coast, etc., casually to California, Florida, etc.).....*Stercorarius longicaudus* (p. 694).

STERCORARIUS PARASITICUS (Linnaeus.)

PARASITIC JAEGER.

Adults, light-colored phase (sexes alike).—Pileum and loreal region grayish brown; rest of head, together with neck and under parts except under tail-coverts, immaculate white, the head more or less strongly tinged with straw yellow; upper parts uniform brownish gray, becoming darker or dusky on primaries and tail; anal region and under tail-coverts uniform brownish gray; bill light horn color,

the terminal portion dusky or blackish; iris brown; legs and feet black.

Adults, dusky phase (sexes alike).—Entirely plain dark sooty grayish brown, the neck more or less tinged with straw yellow.

Young, light-colored phase.—Head and neck streaked with dusky brown and cinnamon or cinnamon-buff, the latter usually predominating; under parts more or less distinctly barred or transversely spotted with the same; upper parts dusky grayish brown, the feathers tipped or terminally margined with cinnamon or cinnamon-buff.

Young, dusky phase.—General color dusky grayish brown or brownish gray, the wings and tail darker; middle of neck, all round, indistinctly streaked with grayish white; under parts, except chest and upper breast, barred with grayish white, the bars broad and distinct on under tail-coverts; scapulars, interscapulars, wing-coverts, upper tail-coverts, and feathers of rump narrowly tipped or terminally margined with pale dull buff.

Downy young.—"Sooty brown above, paler below; but the downy young of dark parents are deepest in hue."^a

Adult male.—Wing, 301–340 (320); tail, 164.5–235 (188.9);^b exposed culmen, 28–35 (31.2); tarsus, 39.5–45.5 (41.9); middle toe, 33–37 (34.8).^c

Adult female.—Wing, 317–341 (323.7); tail, 176–226 (199.7); exposed culmen, 29–34.5 (31.8); tarsus, 39–45 (42.1); middle toe, 32–38 (35.9).^d

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 332.

^b Measured to tips of elongated middle rectrices.

^c Sixteen specimens.

^d Fourteen specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from northern Russia (Archangel).....	330	213	32	41.5	36
One adult male from Iceland.....	317	194	29	42	33
One adult male from Greenland.....	319	195.5	31	40.5	34
Four adult males from Massachusetts (September).....	315.5	175.7	31.1	41.6	34.5
Six adult males from Alaska.....	327	203.6	31.7	42.8	35.7
Three adult males from Bering Island, Kamchatka.....	313.7	198.3	30.8	40.8	34
FEMALES.					
One adult female from Spitzbergen.....	342	209.5	32	42	35.5
One adult female from Faeroes.....	318	193.5	31	40	36
One adult female from Greenland.....	326	206	31.5	39	35
Two adult females from Massachusetts (September).....	329	196.3	32.5	41.5	34.5
Eight adult females from Alaska.....	322	204.2	31.8	42.9	35.8
One adult female from Bering Island, Kamchatka.....	318	200	31	40	34.5

Arctic and subarctic coasts, islands, and larger inland waters, northward to at least $81^{\circ} 40' N.$ latitude; breeding in Alaska (islands of Agattu, Kiska, and Amchitka, Aleutian chain; Glacier Bay; Kodiak; Kowak River; Point Barrow), Mackenzie (Stone Island and eastern end of Great Slave Lake; mouth of Mackenzie River), Keewatin (York Factory), Hudson Strait, western coast of middle and southern Greenland (Godhaven; etc.), Banks Land (Bay of Mercy), Melville Island (Winter Harbor), and, in Eastern Hemisphere, on Iceland, Shetland, and other Scottish islands, northern Norway, northern Russia (lower Petchora River; Archangel; Russian Lapland; Habarova; Kanin Peninsula; Novaya Zemlya), Jan Mayen Land, Franz Joseph Land, Spitzbergen, and along or near Arctic coast of Siberia (Kolyma delta; Golchika, Yenesei River) to Kamchatka (Bering Island); southward in migration as far as southern Brazil (Rio de Janeiro, Dec. 4, June 20; São Paulo, Oct. 26–28, 1912), Argentina (Tuya, Ajó, Feb. 21, 1909), Peru (Callao Bay), Chile (Valparaíso Bay, Feb.), Cape of Good Hope, Persian Gulf, and seas near Australia, Tasmania, and New Zealand; not recorded from Mexico, except Lower California (30 miles off San Pedro Martir Island, July 10, 1905), nor any part of Central America, and few records for West Indies (Barbados, July 10, 1888; at sea between St. Vincent and Carriacou); in the United States recorded from Maine, New Hampshire (Seabrook, Sept. 2, 1897), Massachusetts, Rhode Island (Charlestown Beach, Sept. 2, 1897), New York (Little Gull Island, Aug. 6–16, 1888; Orient, Long Island, Sept. 13, 1907; Gowanus Bay, Long Island, Oct., 1842; Sodus Bay, Aug. 28, 1910; North Hamlin, Nov. 16, 1894; Herkimer County, Aug. 22, 1886), New Jersey (Stone Harbor, May 27, 1901; Atlantic City), North Carolina (Cape Lookout, fall of 1897), South Carolina (Charleston, occasional in Nov.), Florida (Marco, winter of 1884), Pennsylvania (Erie, Oct. 15, 1874; Renovo, June 18, 1911), Ohio (Sandusky Bay, Oct. 6, 1895, Sept. 13 and 20, 1899, Nov., 1895), Michigan (Detroit River, Nov. 27, 1903), Iowa (Keokuk, Oct. 6, 1896; Eagle Lake, near Britt, Sept. 20, 1905), Missouri (Billings, Aug., 1905), Kansas (near Lawrence, Oct. 10, 1898), Nebraska (near Lincoln, Sept. 13, 1898), Colorado (Boulder, Dec.; Sloans Lake, near Denver, fall of 1889; near Pueblo, fall of 1894), Washington (Tacoma, Sept. 17, 1896; Bellingham Bay, Oct. 28, 1893), and California (Monterey Bay, Aug. 1, 1892, Aug. 4, 1894; Hyperion, Los Angeles County, Dec. 18, 1911; Santa Monica, Los Angeles, Sept. 29; San Diego, Dec. 16, 1884; Santa Barbara, Dec.; Ventura County, winter; Humboldt Bay).

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- Larus parasiticus* SONNINI, Nouv. Dict. d'Hist. Nat., vi, 1816, 73.
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- Lestris schleepii* BREHM, Lehrb. Europ. Vög., ii, 1824, 996; Vög. Deutschl., 1831, 720; Naumannia, 1855, 294; Vogelf., 1855, 336.
- Lestris benickii* BREHM, Lehrb. Europ. Vög., ii, 1824, 996 (Germany, migrant); Vög. Deutschl., 1831, 723.
- Lestris benickenii* BREHM, Naumannia, 1855, 294; Vogelf., 1855, 336.
- Lestris macropteros* BREHM, Vög. Deutschl., 1831, 721 (Iceland); Naumannia, 1855, 294; Vogelf., 1855, 336.
- L[estris] richardsonii* JENYNS, Man. Brit. Vertebr., 1835, 282.—EYTON, Cat. Brit. Birds, 1836, 51.
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- Cataractes richardsonii* MACGILLIVRAY, Man. Brit. Orn., pt. ii, 1842, 492.
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- [Lestris] spinicaudus* BONAPARTE, Compt. Rend., xlii, 1856, 770.
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- Stercorarius tephra* MALMGREN, Journ. für Orn., 1865, 390 (Spitzbergen).
- Stercorarius asiaticus* HUME, Stray Feath., i, 1873, 269 (Mekran coast); viii, 1878, 115.—BUTLER and HUME, Stray Feath., v, 1877, 294.
- Lestris longicauda* (not *Stercorarius longicaudus* Vieillot, 1819) FINSCH, Journ. für Orn., 1872, 241; 1874, 203 (New Zealand).

STERCORARIUS LONGICAUDUS Vieillot.

LONG-TAILED JAEGER.

Adults (sexes alike).^a—Pileum, loreal, and orbital regions, and upper part of nape plain sooty black or dull slate-blackish; rest of head and neck, including hindneck and lower part of nape, straw yellow, paler on chin and throat; upper parts, except as described, plain deep brownish gray (lighter on back, where still paler anteriorly), the remiges and rectrices darker, becoming nearly black termi-

^a Apparently this species has no dusky phase, like that of *S. parasiticus*.

nally; two outer primaries with shafts white or yellowish white; chest (sometimes breast also, more rarely even upper part of abdomen) immaculate white, shading posteriorly into grayish, the under tail-coverts, anal region, flanks, and (usually) abdomen being neutral gray; bill blackish terminally, the basal portion brownish or horn color; iris dark brown; tarsi and basal portion of toes and webs light bluish gray in life, drying light olive or yellowish, the remaining portion of toes and their webs black.

Immature.—"Under parts and upper tail-coverts barred with varying degrees of ash-brown; very little yellow on the sides of the neck; otherwise similar to adults."^a

Young.—"Ash-brown above, the head darkest; the feathers of the mantle and tail-coverts merely tipped with buff, but without any rufous tint; under parts dull grayish white, barred with ash-brown."^a

Downy young.—"Grayish brown above and below, much paler than in *S. crepidatus*."^a

Adult male.—Wing, 295–327 (309.1); tail (middle rectrices), 263–350 (299); exposed culmen, 27–31.5 (28.6); tarsus, 38–44 (41.1); middle toe, 31–36.5 (32.7).^b

Adult female.—Wing, 305–317 (313.3); tail (middle rectrices), 238–350 (295); exposed culmen, 27.5–30 (28.8); tarsus, 40–42.5 (41.8); middle toe, 31–34.5 (32.5).^c

Breeding on both coasts of Greenland (from extreme northwestern corner southward on western side to Disko Bay, on eastern side to Scoresby Sound), and on adjacent island of Ellesmere Land (Cape Union and King Oscar Land), in northern Mackenzie (Franklin Bay; Baillie Island; near Fort Anderson; Caribou Hills), Yukon (La Pierre House), northwestern Alaska (shores of Kotzebue and Norton Sounds) and Arctic coast of Siberia (Yenesei River; Kolyma delta) to northern Russia (Archangel; Kanin Peninsula; Novaya Zemlya);

^a Saunders, Cat. Birds Brit. Mus., xxv, 1896, 337.

^b Sixteen specimens.

^c Six specimens.

Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Lapland.....	313	327	31	43	32.5
One adult male from Faroe Islands.....	300	263	30	38.5	32
One adult male from Greenland.....	315	275	30	41.5	33
Ten adult males from Alaska.....	308.5	299.5	28.6	41.1	32.8
Three adult males from Bering Island, Kamchatka.....	311	301.3	26.7	41.2	32.7
FEMALES.					
One adult female from Grand Banks.....	313	283	28	42.5	31
Five adult females from Alaska.....	311.4	297.4	28.9	41.7	32.8

migrating southward, more or less sporadically, as far as Anticosti Island (Aug., 1900), Vermont (West Castleton, Sept., 1877), Massachusetts (Woods Hole, Aug. 12, 1888, Sept. 10-22, 1906, Oct. 13, 1894; Georges Bank, fall; Monomoy Island, Sept. 29, 1885), Connecticut (Wallingford, Aug. 30, 1883), New York (Oyster Bay South, date unrecorded; Gowanus Bay, Oct., 1842), New Jersey (80 miles off Barnegat, May 6, 1894, 2 specimens), Florida (Cape Canaveral), Indiana (Millers, Sept. 21, 1915), Illinois (Cairo, Nov., 1876), Iowa (Lone Tree, Johnson County, June 15, 1907), California (near Monterey, Aug. 23, 1894; Pacific Beach, Sept. 19, 1904), Japan, Straits of Gibraltar, and Italy.

Larus parasiticus (not of Linnæus, 1758) PHIPPS, Voy. North Pole, 1774, 187.—BODDAERT, Tabl. Pl. Enl., 1783, 58 (Pl. Enl., pl. 991; not of p. 47, based on Pl. Enl., pl. 762).—BECHSTEIN, Naturg. Deutschl., ii, 1791, 821.—SCORESBY, Arctic Reg., i, 1820, 534.—MEYER (B.), Ann. Wetterau. Ges., i, 1800, 276 (Kostheim-am-Main, Germany).—MEISNER and SCHINZ, Vög. Schweiz, 1815, 278.—MANBY, Voy. Greenl., 1822, 89, and pl.

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Catharacta parasitica RETZIUS, Fauna Suecica, 1800, 160.

Lestris parasiticus (not *Larus parasiticus* Linnæus) TEMMINCK, Man. d'Orn., 1815, 512; 2d ed., ii, 1820, 796.—LESSON, Man. d'Orn., ii, 1828, 288.—AUDUBON Orn. Biog., iii, 1835, 470; Synopsis, 1839, 333; Birds Am., 8vo ed., vii, 1844, 192, pl. 452.

L[estris] parasiticus JENYNS, Man. Brit. Vertebr., 1835, 283.

Lestris parasitica ILLIGER, Prodr. Orn., 1811, 273.—NILSSON, Fauna Suecica, 1817, 181, 184, part.—SABINE (B.), Trans. Linn. Soc., xii, pt. ii, 1819, 551; in Parry's 1st Voy., App., 1821, p. ccvi (Polar Sea to Melville Island).—RICHARDSON (J.), Parry's 2d Voy., App. 1825, 361 (n. part Southampton Land).—ROSS (J. C.), Parry's 3rd Voy., App., 1826, 105; Parry's 4th Voy., App., 1828, 196 (Walden Island; not north of 32°).—WERNER, Atlas, Palmipèdes, 1828, pl. 34.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 490.—GOULD, Proc. Zool. Soc. Lond., 1832, 189 (Orkney Islands); Birds Europe, v, 1867, pl. 442 and text.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 317.—AUDUBON, Birds Am., fol. ed., iii, 1835, pl. 267.—EYTON, Cat. Brit. Birds, 1836, 52.—BONAPARTE, Geog. and Comp. List, 1838, 63.—TEMMINCK, Man. d'Orn., 2d ed., pt. 4, 1840, 493, 501.—MEYER, (H. L.), Illustr. Brit. Birds, iv, 1843, pl. —; vii, 1857, 174, pl. 314.—GIRAUD, Birds, Long Is., 1844, 364.—MACGILLIVRAY, Brit. Birds, v, 1852, 503.—ADAMS, Ibis., 1878, 441 (St. Michaels, Alaska).—RODD, Birds Cornwall, 1880, 174.—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, x, 1882, 105.

Stercorarius parasiticus GRAY, List Gen. Birds, 1840, 78; ed. 1841, 98.—WRIGHT (E. P.), Ibis, 1866, 218 (Prince Patrick Land).—SAUNDERS, Proc. Zool. Soc. Lond., 1876, 330 (monogr.); ed. Yarrell's Brit. Birds, iii, 1884, 681; Man. Brit. Birds, 1889, 677; Ibis, 1892, 183 (British coasts, numerous); Cat. Birds Brit. Mus., xxv, 1896, 334.—DRESSER, Birds Europe, viii, 1876, 481, pl. 612, fig. 1.—SEEBOHM and HARVEY-BROWN, Ibis, 1876, 454 (lower Petchora, Russia; habits).—COLLETT, Nyt Mag. Naturv., 1877, 206 (n. Norway); Bd. xxxv, 1894, 302 (Norway).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 699.—FELDEN, in Markham's Polar Recon., 1881, 335 (Novaya Zemlya, breeding); Trans. Norwich Soc., iv, 1887, 351 (Hudson Straits).—CLARKE, Faun. York-shire, Birds, 1881, 84.—NELSON, Cruise 'Corwin' in 1881 (1883), 111 (habits).—

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- [*Stercorarius parasiticus* SHARPE, Hand-list, i, 1899, 144.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 59 (Wellington Channel; Iglovik, Melville Peninsula).
- Catarractes parasita* PALLAS, Zoogr. Rosso.-Asiat., ii, 1826, 310.
- Lestris parasita* BORGGREVE, Vogelf. Norddeutchl., 1869, 141.
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- Lestris crepidata* BREHM and SCHILLING, Beitr. z. Vogelk., iii, 1822, 861.—BREHM, Lehrb. Naturg., 1824, 747; Zusat., 1824, 998; Isis, 1830, 993; Vög. Deutschl., 1831, 724; Naumannia, 1855, 294; Vogelfang, 1855, 336.—NAUMANN, Vög. Deutschl., x, 1840, 534, pl. 274.—KJÆRBØLLING, Danm. Fugle, 1852, 347, pl. 43.
- Stercorarius longicaudus* VIEILLLOT, Nouv. Dict. d'Hist. Nat., xxxii, 1819, 157 (ex *Stercorarius longicaudatus* Brisson, Orn., vi, 155; cites also *Larus parasiticus* Latham and Pl. Enl. 762).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 399.—GILLET, Ibis, 1870, 307 (Novaya Zemlya).—HARTING, Handb. Brit. Birds, 1872, 78.—GOULD, Birds Great Brit., v, 1873, pl. 81 and text.—EATON, Zoologist, s. s., 1874, 3313 (Spitzbergen).—STEJNEGER, Proc. U. S. Nat. Mus., v, 1882, 42 (crit. nomenclature); x, 1887, 125 (Commander Islands); Bull. U. S. Nat. Mus., no. 29, 1885, 87 (Commander Islands, Kamchatka; crit.).—COCKS, Zoologist, 1884, 232 (Spitzbergen).—BAIRD, BREWER and RIDGWAY, Water Birds N. Am., ii, 1884, 339.—TURNER, Auk, ii, 1885, 158 (Nearer Islands, Aleutian chain); Contr. Orn. Alaska, 1886, 123 (St. Michaels, etc., in summer; habits).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 38; 3d ed., 1910, p. 34.—ALLISON, Ornis, 1886, 422 ((Dobrukscha, 1 spec.).—NELSON, Rep. N. H. Coll. Alaska, 1887, 48 (habits).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 98 (Norton Sound and Port Clarence, Alaska).—REICHENOW, Syst. Verz. Vög. Deutschl., 1889, 64.—HAGERUP, Birds Greenland, 1891, 45.—MACFARLANE, Proc. U. S. Nat. Mus., xiv, 1891, 417 (Barren Grounds, Mackenzie, etc.).—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 147 (Melville Bay; descr. variations of plumage).—TACEANOWSKI, Mém. Ac. St. Petersb., (7), xxxix, 1893, 1059 (e. Siberia).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., v, 1895, 213 (Monterey, California, Aug.).—ANDERSON, Auk, xxv, 1908, 215 (Johnson Co., Iowa, June, 1907).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 12 (Kolyma delta, etc., e. Siberia, breeding).—COOKE, Bull. 292, U. S. Dept. Agric. (Biol. Surv.), 1915, 12, fig. 4 (range and migration).—STODDARD, Auk, xxxiii, 1916, 75 (Miller's, Indiana, Sept. 21, 1915).

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- Lestris longicauda* DROSTE, Vogelw. Borkum, 1869, 362.—HEUGLIN, Journ. für Orn., 1872, 126 (Novaya Zemlya).—HARTING, Handb. Brit. Birds, 1872, 78.—BABBINGTON, Cat. Birds Suffolk, 1886, 224.
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- Lestris longicaudata* REICHENBACH, Syst. Nat., 1850, pl. 5; Nat. Syst. Vög. Longipennes, 1852, p. v.—HEUGLIN, Ibis, 1872, 65 (Novaya Zemlya).—FINSCH, Verh. z.-b. Ges. Wien, xxix, 1879, 277 (n. w. Siberia).—BOOTH, Rough Notes, iii, 1883?
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- Stercorarius cephus* (not *Catharacta cephus* Brünnich, 1764) LEACH, Thompson's Ann. Philos., xiii, 1819, 61; in Ross's Voy. Baffin Bay, 4th ed., App., ii, 1819, p. lvi; 8vo ed., ii, 1819, 163.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 211, pl. 23.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 432, footnote (descr.).—YARRELL, Brit. Birds, iii, 1843, 496 in text.—GRAY, List Birds Brit. Mus., Anseres, 1844, 167, part; List Brit. Birds, 1863, 229.—LAWRENCE, in Baird Rep. Pacific R. R. Surv., ix, 1858, 840.—BAIRD, Cat. N. Am. Birds, 1859, no. 655.—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 243 (Labrador).—BOARDMAN, Proc. Bost. Soc. N. H., ix, 1862, 131 (Bay of Fundy, Aug.).—ROSS (B.), Nat. Hist. Review, 1862, 239.—BLAKISTON, Ibis, 1863, 152 (Mackenzie River).—FISCHER and PELEELN, MT. Orn. Ver. Wien, x, 1886, 210 (Jan Mayen Land).—ROTHSCHILD and HARTERT, Novit. Zool., ix, 1902, 413 (at sea, lat. 13° N.; long 103° 50' W.).
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- [*Lestris*] *buffoni* BOIE, Isis, 1822, 562.—KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, 47.—HOMBYER, Ornith., i, 1885, 80 (Germany).
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Lestris buffoni MEYER and WOLF, Taschenb., iii, 1822, 212 (Spitzbergen; Greenland).—BONAPARTE, Ann. Lyc. N. Y., ii, 1828, 364.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 433, footnote (descr.).—SCHINZ, Europ. Fauna, i, 1840, 391.—YARRELL, Brit. Birds, iii, 1843, 494; 2d ed., iii, 1845, 616.—SCHLEGEL, Rev. Crit., 1844, cxxxv.—MIDDENDORFF, Sibir. Reise, ii, pt. 2, 1853, 241, pl. 24, fig. 2.—KITTLITZ, Journ. für Orn., 1858, 389.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 328.—HOMMEYER, Journ. für Orn., 1870, 436 (e. Siberia).—PALMÉN, Finlands Foglar, 1873, 627.—FEILDEN, Zoologist, 1879, 8 (Cambridge Bay).
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S[tercorarius] buffoni COUES, Key N. Am. Birds, 2d ed., 1884, 738.
Stercorarius buffonii REINHARDT, Ibis, 1861, 16 (Greenland).—COUES, Proc. Essex Inst., v, 1868, 305 (New England).
[Stercorarius] buffonii LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 299 (vicinity New York City).
L[estris] microrhynchos BREHM, Isis, 1830, 993 (*nomen nudum*).
Lestris microrhynchos BREHM, Vogel Deutschlands, 1831, 725; Naumannia, 1855, 294; Vogelfang, 1855, 337.
Lestris lessonii DRELAND, Mém. Soc. Sci. Lille, 1833, part iii (1839), 120.—SCHINZ, Europ. Faun., i, 1840, 391.
Stercorarius lessonii LESSON, Compl. Oeuvres Buffon, ix, 1837, 510.
Lestris brachyrhynchos BREHM, Vogelfang, 1855, 337 (Germany); Naumannia, 1855, 294.
[Lestris] hardyi BONAPARTE, Compt. Rend., xlii, 1856, 770 (*nomen nudum*).
L[estris] hardyi BONAPARTE, Consp. Gen. Av., ii, 1857, 210 (between Hawaiian Islands and Philippines; coll. Berlin Mus.).
Lestris hardyi GRAY, Cat. Birds Trop. Is., 1859, 57.
Stercorarius hardyi COUES, Proc. Ac. Nat. Sci. Phila., 1863, 136 (monogr.).
Lestris brissoni "Bole" DRELAND and GERBE, Orn. Eur., ii, 1867, 400 (in synonymy; error for *buffoni*).

Suborder ALCÆ.

THE AUK TRIBE.

- > *Pygopodes* SCLATER, Ibis, 1880, 409 (includes Gaviidæ).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 21 (Alcæ+Gaviidæ+Colymbidæ).
- > *Alcidæ* STEJNEGER, Standard Nat. Hist., iv, 1885, 68, in text (includes Gaviidæ).
- = *Alcæ* SHARPE, Review Rec. Att. Classif. Birds, 1891, 72.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, xvii, 559.—BEDDARD, Struct. and Classif. Birds, 1898, 359.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1904, 446.—OSERHOLSER, Outl. Classif. N. Am. Birds, 1905, 3.
- = *Alciformes* SHARPE, Review Rec. Att. Classif. Birds, 1891, 72; Hand-list, i, 1899, xiv, 130.
- > *Cephi* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, 24 (include Gaviidæ).

Short-winged, pygopode, aquatic (natatorial) Charadriiformes with space between supraorbital grooves compressed into a ridge; basipterygoid processes absent in adults; occipital fontanelles present; hæmapophyses of dorsal vertebræ large and conspicuous; sternum long and narrow, the metasternum rounded posteriorly and longer than the postero-lateral processes; thigh-muscle formula without Y, usually without B; tensores patagii and biceps slip peculiar; hallux always absent, and anterior toes always fully webbed.

Basipterygoid processes absent in adults, vestigial and fused with nasals in young; temporal fossæ deep; supraorbital grooves deep, meeting along median line (the space between them compressed into a ridge); interorbital septum very incomplete; occipital fontanelles present, well-marked; a well-developed "cerebellar dome;" vomer free, blade-like, cleft posteriorly; maxillo-palatines laminate; lacrymals firmly united with prefrontals; dentary suture of mandible with a well-defined lower limb; vertebræ all free; cervical vertebræ, 15; anterior dorsal vertebræ with very conspicuous hæmapophyses, bifid at their free ends; neural spines and transverse processes with long tendinous ossifications; corpus sterni greatly elongated, the metasternum rounded posteriorly, 2-notched, 1-notched (medially), or entire, projecting beyond postero-lateral processes; a spina communis between coracoid grooves; coracoids without a subclavicular process, the ectepicondylar process minute or absent; furcula with a facet for articulation with acrocoracoid, and connected with the latter only; pelvis laterally compressed, the pre-ilium longer than post-ilium, the two separated from one another by dorsal border of neural spines of synsacrum; post-ilia with a more or less extensive flattened dorsal surface, and separated from one another by transverse processes of synsacrum; pubes of great length (as long as or longer than whole ilium); ribs attached to sternum, 7; posterior dorsal and ventral ribs of equal length, running backward as far as free ends of pubes; cnemial crest not greatly produced beyond level of articular surface

of femur; first digit of manus absent; tarso-metatarsus not laterally compressed; tensor patagii and biceps slip peculiar (distinctive); expensor secundariorum absent; thigh-muscle formula without Y, sometimes (usually?) without B (ABX — AX —, or AX +), the ambiens always absent; only 1 brevis tendon; cæca absent or small (mere nipples); intestinal convolutions of numerous (not less than six) loops; gall bladder present; crop absent; tongue generally fleshy, elongated, triangular, spiny only at base; anterior toes always fully webbed, the third (middle) one longest; hallux always absent; young ptilopædic, tardily nidifugous (nearly nidicolous).

Oil gland tufted, its apertures 2-8; aftershaft present; secondaries aquincubital; dorsal pteryla without break between anterior and posterior parts; ventral pteryla dividing much posterior to neck; rectrices, 12-18.

The Alcæ differ from the remaining Charadriiformes in possession of all the above characters, and therefore seems to be more distinct as a group from the Lari and Limicolæ than these are from one another.

By some systematists (notably Selater, Stejneger, and Beddard) the Alcæ are placed in the same suborder with the Loons (Gaviidæ) or one including both the Loons and the Grebes (Colymbidæ). Undoubtedly the Auks and Loons are closely related; but the evidence seems to point to a closer relationship of the former to the Gulls than to the Loons. The latter differ in their holorhinal (instead of schizorhinal) nostrils which, externally, are operculate; well-developed (long) instead of absent or rudimentary (nipple-like) cæca; presence of a powerful cnemial crest to the tibia, and possession of an ambiens muscle and a well-developed hallux. In the Alcæ the rectrices are 12 to 18 in number, while in the Gaviidæ they number 18-20. There are also other differences, which it is unnecessary to mention here.

Family ALCIDÆ.

THE AUKE.

- = *Brachypteri* VIEILLOT, Analyse, 1816, 66.
- = *Alcæ* VIGORS, Trans. Linn. Soc. Lond., xiv, 1825, 498.
- = *Alcidæ* BAIRD, Rep. Pacific R. R. Surv., ix, 1858, 755, 819, 900.—LILLJEBORG, Proc. Zool. Soc. Lond., 1866, 15.—COUES, Key N. Am. Birds, 1872, 338; 2d ed., 1884, 797.—CARUS, Handb. Zool., i, 1868, 366.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 420, 461.—STEJNEGER, Standard Nat. Hist., iv, 1885, 69.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, 76; 3rd ed., 1910, 25.—FÜRBRINGER, Unters. Morph. Syst. Vög., ii, 1888, 1148.—SHARPE, Review Rec. Att. Classif. Birds, 1891, 72; Hand-list, i, 1899, xiv, 130.—GADOW, Classif. Vertebr., 1898, 35.—SALVIN and GODMAN, Biol. Centr.-Am., Aves., iii, 1904, 446.—KNOWLTON, Birds of the World, 1909, 49, 396.

The Alcidae are aquatic (swimming and diving) sea-birds with the legs attached near the rear end of the body (pygopodous), the anterior

toes fully webbed and armed with strongly curved and sharp, though not large, claws, the hallux always absent, the nostrils not overhung by membrane, and the lores always densely feathered. The bill is exceedingly variable in form, often quite unique in structure, but is never acuminate. The wing is moderately large or rather small, with relatively short secondaries, the longest primaries (usually the outermost only but sometimes the two outermost, the second always being nearly as long as the first) exceeding the distal secondaries by approximately half (sometimes a little less, sometimes more than half) the length of the closed wing. The primaries are always more or less bowed, and their coverts very large, covering nearly their basal half. The tail is always short, the rectrices normal and 12 to 18 in number. The tarsus is usually much shorter than the middle toe without claw (longer only in *Synthliboramphus* and *Endomychura*), much compressed, wholly reticulate or (in a few genera) with more or less distinct transverse scutella on lower or inner portion of acrotarsium, rarely with a continuous series. The outer toe (without claw) is always very nearly if not quite as long as the middle toe (without claw), the inner toe as long as the first two phalanges of the middle toe. In one genus (*Synthliboramphus*) the outer toe is longest and the inner toe longer than first two phalanges of middle toe.

Peculiar to the seas and coasts of the more northern parts of the northern hemisphere, they represent there the Penguins of the Antarctic seas. With one exception, however, they possess the power of flight, usually to a marked degree; but the Great Auk (*Pinguinus impennis*), extinct since 1844, was quite unable to fly. The flight, however, while rapid and strong, is direct and not buoyant as it is in the Lari.

The family is represented by about 15 genera and 28 species, all of the former and all but four of the latter occurring in North America.

They nest in cavities among the rocks, usually on the face of cliffs, though some genera lay their eggs in burrows beneath the surface of the ground, like most of the Procellariidæ (Petrels). The single egg is variable in form (which may be either pyriform, ovate, or elongate-ovate), even more so in color. The molt is said to be semi-annual.

KEY TO THE GENERA OF ALCIDÆ.

- a. Bill gallinaceous in form (short and thick, with distinctly curved culmen), its width at posterior end of nostrils equal to its depth at same point, the gonys exceedingly short (less than one-third the distance from gonydeal angle to rictus); only 1 carotid artery. (*Plautæ*)..... *Plautus* (p. 706).
- aa. Bill not gallinaceous in form; if short and thick, its width at posterior end of nostrils decidedly less than its depth at same point; gonys relatively longer, always longer than one-third the distance from gonydeal angle to rictus; 2 carotid arteries.

- b. Claw of inner toe normal (not notably larger, more strongly curved, or sharper than the claws of other toes); thigh-muscle formula ABX or AX; syrinx not peculiar; liver with lobes equal or the left lobe larger than the right; rectrices usually 12-14 (16-18 in *Cerorhinca*); no fleshy rectal rosette.
- c. Mandibular rami densely covered for much the greater part with short velvety feathering, the anterior edge of the feathering forming an oblique line (convex anteriorly) from or near the gonydeal angle to rictus; latero-frontal feathering also dense and velvety, advancing to or beyond anterior end of nostril and partly overhanging its upper margin; rectrices usually 12 (14 in *Pinguinus* only). (*Alcinae*.)
- d. Bill very deep and very much compressed, transversely grooved laterally (in adults), the culmen very strongly curved, more or less arched; loral antia very much nearer to tomium than to culmen; tail graduated, the rectrices pointed. (*Alcae*.)
- e. Bill relatively larger and longer, the distance from anterior end of nostril to tip of maxilla greater than from same point to rictus; mandible with numerous transverse grooves (in adults); wings greatly reduced, unfitted for flight; rectrices 14 *Pinguinus* (p. 710).
- ee. Bill relatively smaller and shorter, the distance from anterior end of nostril to tip of maxilla much less than from the same point to rictus; mandible with not more than two grooves; wings well-developed, fitted for prolonged flight; rectrices 12 *Alca* (p. 713).
- dd. Bill narrow, elongate-subconical, only moderately compressed, the culmen nearly straight for most of its length or very gently curved from about middle portion, without transverse grooves; loral antia about midway between culmen and tomium or nearer the former; tail slightly rounded, the rectrices not pointed. (*Uria*.) *Uria* (p. 717).
- cc. Mandibular rami feathered for less than greater part, the anterior edge of the feathering forming a more or less distinct angle or antia; latero-frontal feathering falling short of anterior end of nostril or else (in *Synthliboramphus*) the short and broad nasal operculum unfeathered, tarsus longer than middle toe without claw, and acrotarsium transversely scutellate. (*Phalarinae*.)
- d. Gonys much shorter than distance from its base to rictus; bill simple in form, small and slender, or compressed, without deciduous accessory pieces; latero-frontal feathering advancing to at least middle of nostril.
- e. Bill more elongated, the latero-frontal antia much nearer to rictus than to tip of maxilla, the culmen nearly straight to near tip, where abruptly decurved; mandibular rami mostly unfeathered, the malar antia forming a distinct median angle; base of culmen unfeathered to behind posterior end of nostril; nostril slit-like, in extreme lower edge of the large and well-defined nasal fossa; size larger (wing not less than 150 mm.). (*Cepphex*.) *Cepphus* (p. 732).
- ee. Bill more abbreviated, the latero-frontal or frontal antia much nearer to tip of maxilla than to culmen, the latter gently to rather strongly curved from near base; mandibular rami mostly feathered, there being no distinct, if any, malar antia; base of culmen unfeathered only to slightly behind anterior end of nostril; nostril broadly oval, pyriform, or triangular, near anterior end of the mostly feathered nasal fossa; size smaller (wing not more than 145 mm.).
- f. Acrotarsium reticulate; outer toe not longer than middle toe and inner toe not longer than first two phalanges of middle toe; bill more slender, its depth at anterior end of nostril less than length of gonys; mandibular rami mostly feathered, the naked portion much shorter than gonys. (*Brachyramphex*.)

- g. Tarsus much shorter than middle toe without claw (scarcely longer than first two phalanges of middle toe); tail little if any more than one-fourth as long as wing; primaries relatively longer, the longest exceeding distal secondaries by decidedly more than half the length of wing; rectrices 14.....*Brachyramphus* (p. 745).
- gg. Tarsus as long as or longer than middle toe without claw; tail decidedly more than one-fourth (about three-sevenths) as long as wing;^a primaries relatively shorter, the longest exceeding distal secondaries by little if any more than half the length of wing; rectrices 12.....*Endomychura* (p. 751).
- ff. Acrotarsium transversely scutellate; outer toe longer than middle toe and inner toe longer than first two phalanges of middle toe; bill thicker (vertically), its depth at anterior end of nostril equal to length of gonys; mandibular rami extensively unfeathered, the naked portion about as long as gonys. (*Synthliboramphus*.)^b
- Synthliboramphus* (p. 755).
- dd. Gonys longer than distance from its base to rictus; bill more complex in form, larger or stouter, usually (always?) with deciduous accessory pieces; latero-frontal feathering not advancing as far as middle of nostril, which, together with its conspicuous operculum, is wholly exposed. (*Phalacrocorax*.)
- e. Smaller (wing not more than 155 mm.): rectrices, 14; acrotarsium wholly reticulate; bill relatively smaller and broader, its length from posterior end of nostril much less than length of tarsus; maxillary tomium straight or convex, mandibular tomium straight or concave; longest primaries exceeding distal secondaries by less than half the length of wing
- f. Bill depressed basally, its width at base decidedly greater than its depth at same point; distance from posterior end of nostril to tip of maxilla much more than half the length of tarsus; head without plumes.
- Ptychoramphus* (p. 760).
- ff. Bill not depressed basally, its width at base less than its depth at same point; distance from posterior end of nostril to tip of maxilla less than half the length of tarsus; head with ornamental plumes.

^a The tail is not really longer than in *Brachyramphus*, but on account of shorter primaries is longer in proportion to length of the wing.

^b Although Dr. Stejneger suggests (Bull. U. S. Nat. Mus., no. 29, 1885, 24, 25) that *Synthliboramphus* "seems to be nearer related to the *Phalacrocoracidae* than to the *Urinae*" (i. e., the *Cephex*+*Brachyramphus* of this arrangement), I am unable to find characters which would allow me to place it with that group. While possibly more nearly related to the *Phalacrocoracidae* than to the *Brachyramphus*, *Synthliboramphus* possesses so many unique characters that it seems best to consider it as representing a distinct group. Apart from the regularly scutellate acrotarsium (a character not shared by any of the *Phalacrocoracidae*), *Synthliboramphus* is the only genus in the family which has the outer toe (without claw) longer than the middle toe, and the inner toe longer than the first two phalanges of middle toe. Its style of coloration is also quite unique.

^c It has not yet been demonstrated so far as I know that *Ptychoramphus* agrees with other *Phalacrocoracidae* in possessing deciduous pieces on the basal portion of the bill; but I am inclined to believe that the linear infra-nasal piece and lateral prominence near middle of the mandible may be deciduous or at least scale off after the breeding season. Concerning this subject, see the following: Bureau, in Bull. Soc. Zool. France, 1879, 1-68, pls. 1-6; Ridgway, Bull. Nutt. Orn. Club, v. 1880, 126, 127; Coues, Bull. Nutt. Orn. Club, v. 1880, 127, 128; Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 28, 33, 34, 40-42, 48, 54, pls. 1, 3, 4, 5. The last-mentioned is especially important.

- g. Mandible very narrow (at gonydeal angle only about half as deep as maxilla), strongly recurved to the acute tip; culmen and maxillary tomium strongly, regularly, and about equally convex; tip of the maxilla truncate or subtruncate; feathering at lateral base of maxilla forming a distinct angle or latero-frontal antia.... *Phaleris* (p. 763).
- gg. Mandible deeper (at gonydeal angle much more than half as deep as maxilla, not recurved, or else its tip not acute; culmen and maxillary tomium not equally convex, the latter sometimes nearly straight and if convex irregularly so; tip of maxilla obtusely pointed; feathering at lateral base of maxilla forming an oblique line to base of culmen, not forming a latero-frontal antia.
- h. Bill relatively smaller, with exposed culmen more than half as long as commissure and much longer than gony; tomia nearly straight, the mandible not recurved terminally; no supra-rectal deciduous plate nor ramal enlargement during breeding season; head with loreal and post-rectal acicular plumes in adults.
- i. Without any crest; a deciduous compressed supranasal knob in breeding season *Ciceronia* (p. 767).
- ii. With a slender, elongated and recurved frontal crest; no supranasal knob in breeding season *Alcella* (p. 770).
- hh. Bill relatively larger, with exposed culmen less than half as long as commissure and not longer than gony; maxillary tomium irregularly convex, the mandibular tomium irregularly concave; tip of mandible recurved, with tip obliquely truncate; a deciduous supra-rectal corneous plate and conspicuous enlargement of mandibular rami; head without loreal or post-rectal plumes (but with an elongated, recurved frontal crest, as in *Alcella*).
- Ethia* (p. 774).
- ee. Larger (wing more than 165 mm.); rectrices 16-18; acrotarsium with transverse scutella on lower portion; longest primary exceeding distal secondaries by more than half the length of wing; bill much longer than distance from posterior end of nostril to tip of maxilla, nearly if not quite equal to length of tarsus. (A conspicuous compressed supra-nasal "horn" in breeding season) *Cerorhinca* (p. 778).
- bb. Claw of inner toe conspicuously larger, more strongly curved, and more acute than those of middle and outer toes; thigh-muscle formula AX+; syrinx peculiar; liver with lobes equal or the right lobe larger than the left; rectrices 16; bill excessively deep and compressed, its height at base equal to chord of culmen, the terminal half conspicuously grooved (transversely), the basal portion with several deciduous parts. (*Fraterculinae*.)
- c. Deciduous nasal cuirass or "saddle" diminishing in width toward culmen, its anterior outline more or less convex; strongly oblique maxillary grooves convex distally (anteriorly); basal lamina of maxilla of equal width throughout, or slightly wider above than below; eyelids with horny appendages; head without ornamental plumes; under parts white.
- Fratercula* (p. 782).
- cc. Deciduous nasal cuirass broadest toward culmen, where surmounted by a broadly rounded ridge, its anterior outline concave; nearly vertical maxillary grooves concave distally (anteriorly); basal lamina of maxilla much broader below than above; eyelids without horny appendages; head with conspicuous, elongated, decurved postocular plumes; under parts dusky *Lunda* (p. 792).

Genus *PLAUTUS* Gunnerus.

Plotus (not of Linnæus, 1766) GUNNERUS, Trondheimske Selsk. Skrifter, i, 1761, 263. (Type, by monotypy, *Plotus* eller *Plautus columbarius* Gunnerus=*Alca alle* Linnæus.)

Plautus GUNNERUS, Trondheimske Selsk. Skrifter, i, 1761, 263, pl. 6. (Type, by monotypy, *Plotus* eller *Plautus columbarius* Gunnerus=*Alca alle* Linnæus.)

Alle LINK, Beschr. Nat. Samml. Univ. Rostock, i, 1806, 17. (Type, by monotypy, *A. nigricans* Link=*Alca alle* Linnæus.)

Mergulus VIEILLLOT, Analyse, 1816, 67. (Type, by original designation, *Poi plongeon noir et blanc* Edwards=*Alca alle* Linnæus.)

Small Alcidsæ (wing 106-122 mm.) with short, thick galliform bill, secondaries tipped with white, and under parts of body white.

Bill short and thick, its depth at base about equal to its width at same point and to the distance from nostril to tip of maxilla; culmen strongly curved from near base, the tip of maxilla distinctly uncinatè; gonys straight, ascending terminally, exceedingly short, its length equal to less than half the distance from nostril to tip of maxilla; maxillary tomium slightly but distinctly concave, the mandibular tomium correspondingly convex, both notched subterminally; corneous sheath of mandibular rami gradually contracted in width from base of gonys to rictus; nasal fossa semicircular, the lower third (approximately) occupied by the longitudinally ovate or broadly elliptical nostril the latter overhung by a rather prominent, slightly arched, corneous operculum and posteriorly in contact with the dense, velvety loreal feathering. Longest primaries exceeding distal secondaries by half the length of wing. Tail less than one-third as long as wing, slightly rounded or double-rounded (the middle pair of rectrices decidedly longer than outer pair), the rectrices slightly narrowed at tips, 12 in number. Tarsus about as long as distance from anterior end of nasal fossa to anterior angle of eye, the acrotarsium continuously and regularly transversely scutellate; middle toe, without claw, decidedly longer than tarsus, the outer toe very slightly shorter, the inner toe very slightly shorter than first two phalanges of middle toe.

Plumage and coloration.—Plumage of head (especially the anterior portion) very soft, dense, and velvety. Upper parts black, the scapulars streaked with white, the secondaries narrowly tipped with the same; under parts white, the flanks streaked with black; in summer, head, neck, and chest uniform blackish brown or fuscous; in winter, the under side of head and neck and chest mostly white.

Range.—Arctic Ocean, from western side of Baffin Bay to Novaya Zemlya, southward in winter to Atlantic coast of United States, Azores, and Canary Islands. (Monotypic.)

PLAUTUS ALLE (Linnaeus).

DOVEKIE.

Adults in breeding season (sexes alike).—Head, neck, and chest plain dark sooty brown (clove brown), becoming gradually darker on pileum and hindneck; a short white streak immediately above upper eyelid; rest of upper parts sooty black (slightly glossy), the secondaries sharply but narrowly tipped with white, the posterior scapulars narrowly streaked with the same; under parts of body immaculate white (abruptly defined against the dark brown of chest), the upper or outer portion of flanks broadly streaked with blackish; bill black; iris dark brown; legs and feet brownish (pale flesh color in life, with dusky webs);^a inside of mouth light yellow.^a

Winter plumage (sexes alike).—Malar region, chin, throat, chest, and sides of nape white, the latter mottled with grayish and the feathers of chest with dusky bases; otherwise like the summer plumage.

Young.—Similar to the winter plumage, but black of upper parts duller (less glossy), white on sides of head and neck more extended, and bill smaller and weaker.

Downy young.—Entirely sooty grayish brown, the under parts paler and more grayish.

Adult male.—Wing, 108–122 (115.8); tail, 32.5–41 (34.6); exposed culmen, 13–15 (13.9); tarsus, 19–21 (19.8); middle toe, 23–26 (24.7).^b

Adult female.—Wing, 106.5–118 (113.3); tail, 30.5–34.5 (32.5); exposed culmen, 12.5–14.5 (13.5); tarsus, 19–20 (19.4); middle toe, 23–25.5 (24.2).^c

Coasts and islands of northern Atlantic Ocean and adjacent portions of Arctic Ocean; breeding from Baffin Bay, Smith Sound, and Kane Basin to Franz Josef Land, Novaya Zemlya, and Spitzbergen and

^a According to Audubon.^b Eleven specimens.^c Five specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Two adult males from Spitzbergen.....	121	39.2	14.2	20.5	25.2
Two adult males from Norway.....	117.5	34.2	13.7	20	23.5
One adult male from Germany.....	117	34	15	19	23
Five adult males from Greenland.....	113.3	33.3	13.6	19.7	25.2
FEMALES.					
One adult female from Norway.....	112	32.5	14	19	23.5
Two adult females from Greenland.....	112.2	34.2	13.5	19.2	25.2
One adult female from Ungava.....	118	30.5	13	19	24
One adult female from coast of Virginia (Smith's Island, Jan.).	112	31	13.5	20	23

southward to Iceland; migrating southward, regularly, as far as coast of New Jersey, occasionally (but sometimes abundantly) as far as South Carolina (off Beaufort, Feb., 1909), casually to Bermuda (1 specimen, Jan. 28, 1850), Pennsylvania (Perry County and Delaware River), Ontario (Toronto, Nov. 18, 1901), Michigan (Detroit River), Wisconsin (Port Washington, Jan. 11, 1908); on eastern side of the Atlantic Ocean southward in winter to North Sea, Azores, and Canary Islands.

[*Alca*] *alle* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 131 (Scotland?); ed. 12, i, 1766, 211.—Latham, Index Orn., ii, 1790, 795.

Alca alle BODDAERT, Tabl. Pl. Enl., 1783, 55 (Pl. Enl., 917).—TEMMINCK, Cat. Syst., 1807, 182.—MEYER and WOLF, Taschenb. Vog. Deutschl., 1819, 443.—WILSON, Am. Orn., ix, 1814, 94, pl. 74, fig. 5.—VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 380.—GOULD, Birds Europe, v, 1837, pl. 402 and text.—YARRELL, Brit. Birds, iii, 1843, 358.—SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 20.—HARTING, Proc. Zool. Soc. Lond., 1871, 120 (Wolstenholm Sound); Handb. Brit. Birds, 1872, 71.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 399.

Uria alle TEMMINCK, Man. d'Orn., 1815, 611; 2d ed., pt. ii, 1820, 928.—MEYER, App. to Meyer and Wolf's Taschenb., 1822, 178.—PALLAS, Zoogr. Ross-Asiat., ii, 1826, 369.—BONAPARTE, Obs. Nom. Wilson's Am. Orn., 1826, [205]: Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 425.—WERNER, Atlas Ois. d'Eur., 1828, pl. 99.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 49 (Melville Island).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 531.—AUDUBON, Orn. Biog., iv, 1838, 304, pl. 339.

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- Cephus* alle SCHINZ, Nat. Abbild. Vög., 1833, 368, pl. 130.
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- Arctica* alle GRAY, List Birds Brit. Mus., pt. iii, Anseres, 1844, 157.—REINHARDT, Ibis, 1861, 16 (Greenland).
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- Mergulus arcticus* BREHM, Handb. Vög. Deutschl., 1831, 994.

Genus PINGUINUS Bonnaterre.

- Plautus* (not of Gunnerus, 1761) BRÜNNICH, Zool. Fund., 1771, 78. (Type, by monotypy, "Brillefuglen" = *Alca impennis* LINNÆUS.)
- Pinguinus* BONNATERRE, Tabl. Enc. Méth., i, 1790, 28. (Type, *Alca impennis* LINNÆUS.)
- Pinguin* (emendation) FISCHER DE WALDHEIM, Nat. Mus. zu Paris, ii, 1803, 188.
- Torda* DUMÉNIL, Zool. Anal., 1806, 72. (Type, *Alca impennis* LINNÆUS.)
- Chenalopez* DUMONT, Dict. Sci. Nat., viii, 1817, 392. (Type, by monotypy, *Alca impennis* LINNÆUS.)
- (?) *Chenalopez* "Moehr[ing]" VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1818, 132. (No type designated, and pertinence uncertain.)
- Chenalopes* (emendation) VIEILLOT, Nouv. Dict. d'Hist. Nat., xxiv, 1818, 466. (Type, *Grand alque* ou *grand pingouin* = *Alca impennis* LINNÆUS.)
- Mataeopectera* GLOGER, Hand-und Hilfsb., 1842, 475. (Type, *Alca impennis* LINNÆUS.)
- Gyracca* STEENSTRUP, Vid. Med. Nat. For. Kjob., 1855, 114. (Type, *Alca impennis* LINNÆUS.)

Largest of Alcidæ (exposed culmen 80 or more, the feebly developed wing about 146 mm.) with wings feebly developed, unfitted for flight; bill about as long as head, the mandible (as well as maxilla) with numerous transverse grooves, and tail composed of 14 rectrices.

Bill about as long as head, the distance from anterior end of nostril to tip of maxilla greater than from same point to rictus, deep and greatly compressed, its greatest depth more than twice its greatest width; culmen slightly concave basally, then faintly arched and strongly curved to the decurved tip; gonys slightly but distinctly concave distally, convex and prominent basally; maxilla with a distinct oblique basal lamina, narrower above, its distal half with several (about 6 to 10) oblique, faintly curved lateral grooves.

the distal half of mandible with as many, or more, similar, but more vertical, grooves; nostril entirely concealed beneath lower edge of the dense velvety feathering of lores, which anteriorly forms a nearly straight but faintly concave oblique line across base of maxilla. Wings relatively very small, unfitted for flight. Tail short, graduated, composed of 14 rectrices.

Plumage and coloration.—Plumage of head short, very dense and velvety, especially on anterior portion. Upper parts black, the secondaries tipped with white; under parts immaculate white; in summer, head and neck dark sooty brown, except a large oval area of white covering greater part of space between bill and eye.

Range.—Formerly inhabiting coasts and islands of the northern Atlantic Ocean south of the Arctic Circle, but extinct since 1844. (Monotypic.).

PINGUINUS IMPENNIS (Linnaeus).

GREAT AUK.

Adults in summer (sexes alike).^a—Chin, throat, foreneck, and sides of head and neck uniform velvety dark snuff brown or soft blackish brown, passing gradually into brownish black on pileum and hind-neck; a large oval patch of white covering greater part of space between bill and eye; upper parts uniform black, the secondaries tipped with white; under parts, including chest, immaculate white, this ending anteriorly in an angle on median portion of upper chest or lower foreneck; bill black, its grooves whitish; iris dark brown; legs and feet black; wing, about 146; tail, about 76; exposed culmen, 80–89; greatest depth of bill, about 38.1; tarsus, 42.16; middle toe with claw, 82.5.^b

Extinct since 1844; formerly occurring on coasts and islands of the northern Atlantic Ocean from southern Greenland, Iceland, and Norway southward to Massachusetts (Ipswich; Nahant; islands in Boston Harbor) and northern portion of British Islands (11 British records).

[*Alca*] *impennis* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 130 (Norwegian seas); ed. 12, i, 1766, 210.—GMELIN, Syst. Nat., i, pt. ii, 1789, 550.—LATHAM, Index Orn., ii, 1790, 791.—COUES, Key N. Am. Birds, 1872, 339.

^a I have not seen any description of the winter plumage or young of this species, and no specimens of either are available for examination. Judging from analogy in the case of related forms, however, they would probably differ from the summer plumage, as described above, in having the dark brown of the throat and foreneck probably portions of the sides of the head also) replaced by white.

^b No sexed specimens are available for measurement. The total length of specimens examined varies from 736 to 762 mm., and Audubon gives the expanse of wings as 27.25 inches=641.34 mm.

- Alca impennis* VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 381.—TENNISCH, Man. d'Orn., 2d ed., pt. ii, 1820, 939; pt. iv, 1840, 582.—BORE, Ibis, 1822, 872.—MEYER, App. to Meyer and Wolf's Taschenb. Vög. Deutschl., 1822, 176.—STEPHENS, Shaw's Gen. Zool., xiii, pt. i, 1826, 51.—WERNER, Atlas, Palmipèdes, 1828, 103.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 432, footnote; Geog. and Comp. List, 1838, 66.—SCHINZ, Nat. Abbild. Vög., 1833, 375, pl. 131; Nat. Vög., 1853, 223, pl. 103.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 553.—THOMPSON, Proc. Zool. Soc. Lond., 1835, 79 (Waterford, Ireland); Nat. Hist. Ireland, iii, 1851, 238.—BLYTH, Proc. Zool. Soc. Lond., 1837, 122 (osteology).—GOULD, Birds Europe, v, 1837, pl. 400 and text; Birds Great Brit., v, 1873, pl. 46 and text.—AUDUBON, Orn. Biog., iv, 1838, 316, pl. 341; Synopsis, 1839, 344; Birds Am., 8vo ed., vii, 1844, 245, pl. 465.—SCHINZ, Europ. Faun., i, 1840, 363.—YARRELL, Brit. Birds, iii, 1843, 369.—NAUMANN, Vög. Deutschl., xiii, 1844, 630; pl. 337.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 153.—DEGLAND, Orn. Eur., ii, 1849, 528.—REICHENBACH, Natatores, 1850, pl. 5, figs. 14-17.—MACGILLIVRAY, Brit. Birds, v, 1852, 359.—KJÆRNBØLLING, Danm. Fugle, 1852, 414, pl. 53, fig. 2.—WALTERS, Nat. Hist. Birds Ireland, 1853, 230.—REINHARDT, Journ. für Orn., 1854, 442 (Greenland); Ibis, 1861, 15 (Disko Island and coast of Greenland in winter).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 900.—BAIRD, Cat. N. Am. Birds, 1859, no. 710.—NEWTON, Ibis, 1861, 374 (Iceland; geog. range); 1865, 116 (Caithness; osteol.); 1866, 223 (North America, old records); 1870, 266 (monogr.); 1878, 587 (Orkney Islands).—SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 13.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 614.—DUBOIS, Arch. Cosmol., 1867, 30, pl. 3.—BROWN, Proc. Zool. Soc. Lond., 1868, 361 (Greenland?).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 15 (monogr.); Check List, 1873, no. 615; 2d ed., 1882, no. 878.—FATIO, Bull. Soc. Orn. Suisse, ii, pt. i, 1868, 5-85, pl. 1; pt. ii, 1870, 147-157.—COLLETT, Forh. Vid. Selak. Christiania, 1868, 198; Mitth. Orn. Ver. Wien, viii, 1884, 65, 87; Vid.-Selak. Forh. for 1907, no. 8, 1-17, pls. 1, 2 (Norwegian records and history).—BRANDT, Mélange Biol., vii, 1869, 203.—FEILDEN, Ibis, 1869, 358 (descr. eggs).—DROST, Journ. für Orn., 1869, 355 (Faroe Islands).—FRITSCH, Nat. Vög. Europ., 1870, 490; Atlas, 1871, pl. 59, figs. 8, 9.—ORTON, Am. Nat., iv, 1871 (Audubon's spec. in coll. Mus. Vassar College).—HARTING, Handb. Brit. Birds, 1872, 71 (11 British records).—GRAY (R.), Birds West Scotland, 1871, 441.—GARROD, Proc. Zool. Soc. Lond., 1873, 34, fig. 1 (skull).—ALLEN, Bull. Nutt. Orn. Club, i, 1876, 58 (remains found at Ipswich, Massachusetts).—DRESSER, Birds Europe, viii, 1880, 620.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 741); Nom. N. Am. Birds, 1881, no. 741.—CORT, Beaut. and Curious Birds, 1881, pl. 5 and text.—GRIEVE, Journ. Linn. Soc., xvi, 1882, 479.—BLASIUS, Jahresb. Ver. Nat. Braunsch., iii, 1883, 89; Journ. für Orn., 1884, 58-176; Ver. f. Naturw. z. Braunsch., iii, 1881-2, 89-115.—DIXON, Ibis, 1885, 90 (St. Kilda; habits).—SUNDEVALL, Svensk Fagl., 1885, 994, pl. 80, fig. 2.—SREBOHM, Hist. Brit. Birds, iii, 1885, 371.—SAUNDERS, ed. Yarrell's Brit. Birds, iv, 1885, 61; Illustr. Man. Brit. Birds, 1889, 681.—TESCHUSI and DALLA-TORRE, Ornith., 1887, 342 (Austria-Hungary).—GRÖNDAL, Ornith., 1887, 593.—LUCAS, Rep. U. S. Nat. Mus., 1887-8, 493, pls. 71-73 (Funk Island; osteology); 1888-9, 709.—LILFORS, Col. Figs. Brit. Birds, pt. xviii, 1891.—SCHLATER, Ibis, 1891, 281; 1892, 453.—BIDWELL, Ibis, 1894, 297 (descr. eggs).
- A[lca] impennis* KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xci, 236.—HÖLBOLL, Naturhist. Tidsekr., iv, 1843, 457 (Greenland).—GRAY, Gen. Birds, iii, 1847, 637.—COUES, Key N. Am. Birds, 2d ed., 1884, 819.

- Alca impennis* BODDAERT, Tabl. Pl. Enl., 1783, 22 (Pl. Enl., pl. 367).
Plautus impennis STEENSTREP, Vid. Med. Nat. Förh. Kjobenhavn, 1855, 14; Nat. Förh. Vid. Med., 1855, 33-116.—PREYER, Journ. für Orn., 1862, 110, 337.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 467.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 33; 3d ed., 1910, p. 32.—SHARPE, Handb. Birds Great Brit., iv, 1897, 111, pl. 105.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 563.—THAYER, Auk, xxii, 1905, 300, pls. 13, 14 (as to recent purchase of mounted specimen and 3 eggs); xxix, 1912, 208, pl. 12 (account of eggs in Thayer Museum).
[Plautus] impennis RIDGWAY, Man. N. Am. Birds, 1887, 19.
[Plautus] impennis SHARPE, Hand-list, i, 1899, 130.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 51.
[Pinguinus] impennis BONNATERRE, Tabl. Enc. Méth., i, 1790, 29, pl. 10, fig. 2.
Pingouin impennis LACÉPÈDE and DAUDIN, in Didot ed. Buffon Hist. Nat. Quadr., xiv, 1799 (1802), 313.
[Chenalopez] impennis GRAY, Hand-list, iii, 1871, 95, no. 10773.
Alca borealis FORSTER, Synopt. Cat. Brit. Birds, 1817, 29.
[Alca] maior MERREM, in Ersch u. Gruber, Encycl., sect. i, ii, 1819, 407.

Genus *ALCA* Linnæus.

- Alca* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 130; ed. 12, i, 1766, 210. (Type, by tautonymy, *Alca torda* Linnæus.)
Pingouin LACÉPÈDE, in Buffon Hist. Nat., Quadr., Didot ed., xiv, 1799 (1802), 313. (Type, *Alca torda* Linnæus.)
Utamania LEACH, Syst. Cat. Birds and Mam. Brit. Mus., 1816, 42.

Large Alcidae (wing 188-201 mm.) with the deep and compressed and transversely-grooved bill much shorter than head; tail graduated, of 12 rectrices, and wings well-developed (adapted for flight).

Bill much shorter than head, the distance from anterior end of nostril to tip of maxilla much less than from same point to rictus, much compressed, its width at anterior end of nostril equal to only about half the depth of maxilla at same point; culmen strongly arched, the tip of maxilla strongly uncinat; tomia nearly straight to near tip where strongly decurved; gonydeal angle prominent, the gonys ascending and faintly concave distally; mandibular rami densely covered with soft, velvety feathering except along upper edge, the anterior outline of the feathering forming a gently curved (convex) line to the base of gonys; whole loreal region and nasal fossae densely covered with short, soft velvety feathering, which overhangs the upper edge of the longitudinal, slit-like nostril, the anterior edge of this feathering forming a slightly curved (convex) strongly oblique line from anterior end of nostril to base of culmen; a narrow prominent lamina saddled over base of maxilla, against frontal and loreal feathering, at the lower end continued backward as a prominent longitudinal ridge, between nostril and tomium, to the rictus, the mandible also with a similar ridge along upper and anterior portions of the ramus; sides of maxilla with two or three rather broad

and shallow transverse, slightly curved (distally convex) grooves, the mandible usually with one or two similar but more vertical grooves. Wing moderate, the longest primary (outermost) exceeding distal secondaries by more than half the length of wing. Tail about two-fifths as long as wing, graduated for more than one-third its length, the middle rectrices obtusely pointed; rectrices 12. Tarsus about as long as chord of exposed culmen, the acrotarsium continuously transversely scutellate; middle toe, without claw, much longer than tarsus, the outer toe as long as middle toe (but its claw smaller), the inner toe (without claw) as long as first two phalanges of middle toe.

Plumage and coloration.—Plumage of head, especially the anterior portion, short, very dense, and soft or velvety. Upper parts sooty black, the secondaries narrowly tipped with white; under parts immaculate white. In breeding season, the head and upper neck dark sooty brown (deepening into blackish on pileum and hindneck), relieved by a white line from eye to base of culmen.

Range.—Coasts and islands of the northern Atlantic Ocean, south in winter to Atlantic coast of United States, Mediterranean Sea, etc. (Monotypic.)

ALCA TORDA Linnaeus.

RAZOR-BILLED AUK.

Adults in breeding season (sexes alike).—Head and upper neck plain dark brown (bright clove brown or deep olive-brown), becoming much darker on pileum and gradually darkening into slate-black on hindneck and rest of upper parts; secondaries narrowly but sharply tipped with white; a narrow white line extending from anterior angle of eye to near base of culmen; under parts, including axillars and under wing-coverts, immaculate white, this extending forward to and including the lower foreneck; bill black, with one or more of the transverse grooves whitish; interior of mouth yellow; iris dark brown; legs and feet dull black.

Winter plumage.—Whole under portion of head and neck and space behind auricular region white; no white line between bill and eye; bill without the basal lamina; otherwise as in summer.

Young.—Similar in coloration to the winter adult, but bill smaller and without grooves.

Downy young.—Head, neck, and under parts plain dull whitish, usually more or less tinged above with brownish buff; back, rump, and flanks varying from pale brownish buff, more decidedly brownish posteriorly, to dark sooty brown, the down dusky immediately beneath the surface; posterior and lateral under parts more or less tinged with brownish buff or sooty brownish.

Adult male.—Wing, 188–201 (195.6); tail, 72–83 (78.9); culmen, 32–35.5 (34.1); greatest depth of bill, 21–24.5 (22.6); tarsus, 30.5–33 (31.6); middle toe, 39–44 (40.9).^a

Adult female.—Wing, 194–198 (196); tail, 82–88.5 (85.2); culmen, 33.5–35 (34.2); greatest depth of bill, 21–22 (21.5);^b tarsus, 32;^c middle toe, 40.^c

Coasts and islands of northern Atlantic Ocean and adjacent portion of Arctic Ocean, from southern Greenland eastward to Spitzbergen;^d breeding, on American side, from southern Greenland southward to Nova Scotia (Bay of Fundy) and islands in Gulf of St. Lawrence (Mingan Islands; Bird Rocks); wintering from New Brunswick to Long Island, casually or occasionally to Virginia (Cobbs Island; Smiths Island, March 29, 1912; Norfolk, Oct. 15, 1886) and North Carolina (Lookout Cove, Feb. 15, 1890); occasional inland as far as Ontario (Toronto, Dec. 10, 1889; Hamilton, Dec. 9, 1893); on eastern side of Atlantic southward in winter as far as Azores, Canary Islands, Straits of Gibraltar, Italy, and Algeria.

[*Alca*] *torda* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 130 (s. Sweden); ed. 12, i, 1766, 210.—GMELIN, Syst. Nat., i, pt. ii, 1789, 551.—LATHAM, Index Orn., ii, 1790, 793.—REINHARDT (J.), Journ. für Orn., 1854, 442 (Greenland).—SHARPE, Hand-list, i, 1899, 130.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 51.

Alca torda TEMMINCK, Cat. Syst., 1807, 182; Man. d'Orn., 1815, 616; 2d ed., pt. ii, 1820, 936; pt. iv, 1840, 581.—MEYER and WOLF, Taschenb. Vög. Deutschl., 1810, 439, pl.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 381.—PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 360.—BONAPARTE, Obs. Nomencl. Wilson's Am. Orn., 1826, [204]; Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 431.—WERNER, Atlas, Palmipèdes, 1828, pl. 102.—MÉNEVILLE, Icon. Règne Anim., Ois., 1829–38, pl. 61, fig. 2.—LESSON, Traité d'Orn., 1831, 642, pl. 119, fig. 1.—BREHM, Handb. Vög. Deutschl., 1831, 1003.—SCHINZ, Nat. Abbild. Vög., 1833, 374, pl. 130; Europ. Faun., i, 1840, 363; Nat. Vög., 1853, 223, pl. 102.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 547.—AUDUBON, Orn. Biog., iii,

^a Seven specimens.

^b Two specimens.

^c One specimen.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Two adult males from Europe.....	194.5	81.5	33	21.5	31.7	39
Five adult males from eastern North America.....	196	77.9	34.6	23.1	31.5	41.6

The two adult females measured are both from eastern North America.

^d Records for Japan, "between Kamchatka and Alaska," and even for coast of Siberia, are probably erroneous.

- 1835, 112, pl. 214; v. 1839, 628; *Synopsis*, 1839, 345; *Birds Am.*, 8vo ed., vii, 1844, 247, pl. 466.—NILSSON, *Skand. Faun.*, ii, 1835, 520.—GOULD, *Birds Europe*, v, 1837, pl. 401 and text; *Birds Great Brit.*, v, 1866, pl. 47 and text.—YARRELL, *Brit. Birds*, iii, 1843, 366.—NAUMANN, *Vög. Deutschl.*, xii, 1844, 606, pl. 336.—DEGLAND, *Orn. Eur.*, ii, 1849, 525.—REICHENBACH, *Nataturen*, 1850, pl. 5, figs. 18-22.—THOMPSON, *Nat. Hist. Ireland*, iii, 1851, 235.—KJÆRBØLLING, *Danm. Fugle*, 1852, 413, pl. 53, fig. 1.—WATERS, *Nat. Hist. Birds Ireland*, 1853, 231.—CASSIN, in Baird, *Rep. Pacific R. R. Surv.*, ix, 1858, 901.—BAIRD, *Cat. N. Am. Birds*, 1859, no. 711.—REINHARDT, *Ibis*, 1861, 15 (Greenland).—MALMGREN, *Journ. für Orn.*, 1863, 454 (Spitzbergen).—MORE, *Ibis*, 1865, 451 (Great Britain).—DEGLAND and GERBE, *Orn. Eur.*, ii, 1867, 612.—SCHLEGEL, *Mus. Pays-Bas*, vi, no. 33 (Urinatores), 1867, 13.—COLLETT, *Förh. Vid. Selsk. Christiania*, 1868, 193.—BRANDT, *Mélang. Biol.*, vii, 1869, 204.—DMOSTE, *Journ. für Orn.*, 1869, 355 (Faroe Islands).—TURNBULL, *Birds E. Penn. and N. J.*, 1869, 50.—HARTING, *Proc. Zool. Soc. Lond.*, 1871, 120 (n. e. coast North America); *Handb. Brit. Birds*, 1872, 70.—BROOKE, *Ibis*, 1873, 348 (Sardinia).—WRIGHT, *Ibis*, 1874, 230 (Malta).—IRBY, *Orn. Gibralt.*, 1875, 218; 2d ed., 1895, 894; *Ibis*, 1879, 346 (Gibraltar); 1883, 190 (Santander, Spain).—PALMÉN, *Journ. für Orn.*, 1876, 65 (Finland).—DRESSER, *Birds Europe*, viii, 1877, 557, pl. 619.—BAU, *Journ. für Orn.*, 1877, 342 (Germany).—BARROWS, *Proc. Bost. Soc. N. H.*, xix, 1877, 161 (monogr.).—BLAKISTON and PRYER, *Ibis*, 1878, 206 (Japan).—MAYNARD, *Birds E. N. Am.*, 1881, 497.—GREGGOLD, *Ibis*, 1881, 221 (Italy).—SEEBOHM, *Ibis*, 1882, 383 (Onega, Russia); *Hist. Brit. Birds*, iii, 1885, 375.—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 472.—LÜTKEN, *Ornis*, 1885, 142 (Denmark).—SUNDEVALL, *Svenk. Fogl.*, iii, 1885, 983, pl. 52, fig. 2.—SAUNDERS, ed. *Yarrell's Brit. Birds*, iv, 1885, 55; *Illustr. Man. Brit. Birds*, 1889, 679.—DIXON, *Ibis*, 1885, 90 (St. Kilda).—BOOTH, *Rough Notes*, iii, pt. xi, 1886.—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886 and 2d ed., 1895, no. 32; 3rd ed., 1910, p. 32.—TSCHUSI and HOMEYER, *Ornis*, ii, 1886, 174 (local names).—GRÖNDAL, *Ornis*, ii, 1886, 367, 613 (Iceland); iii, 1887, 587, 600 (etymology).—SALVADORI, *Ucc. Ital.*, 1887, 296.—TAIT, *Ibis*, 1887, 399 (Cesimbra and Ovar Aveiro, Portugal).—WEBSTER, *Auk*, iv, 1887, 158 (Norfolk, Virginia, Oct., 1886).—BRUSINA, *Soc. Hist. Nat. Croatica*, iii, 1888, 149.—KOENIG, *Journ. für Orn.*, 1888, 297 (Algeria); 1893, 105 (Tunis, Algeria).—REMÉ, *Ibis*, 1888, 82 (Teneriffe, Canary Islands).—BISHOP, *Auk*, vi, 1889, 149 (Magdalen Islands).—RIVES, *Cat. Birds Virginia*, 1890, 41 (Cobb's Island, 3 spec., winter; Norfolk, 1 spec. Oct. 15, 1886).—FISHER (A. K.), *Auk*, vii, 1890, 203 (Lookout Cove, North Carolina, Feb. 15, 1890).—LILFORD, *Col. Figs. Brit. Birds*, pt. xii, 1896.—EVANS, *Ibis*, 1891, 83 (length of incubation; 30 days).—SCHALOW, *Journ. für Orn.*, 1891, 272 (between Kamchatka and Alaska); 1895, 459 (w. Greenland).—HARTERT, *Ibis*, 1892, 522 (e. Prussia); *Novit. Zool.*, viii, 1901, 306 (Canary Islands).—WALDO, *Ibis*, 1893, 207 (Canary Islands).—ROTHSCHILD, *Ibis*, 1893, 444 (descr. melanistic variety).—BLAGG, *Ibis*, 1893, 358 (Shetland Islands).—STONE, *Birds E. Penn. and N. J.*, 1894, 41 (coast New Jersey).—PEARSON and BIDWELL, *Ibis*, 1894, 237 (Hjemso, Norway).—WINTLE, *Canad. Rec. Sci.*, vi, 1895, 248 (Montreal, Quebec, Nov. 10, 1893).—SHARPE, *Handb. Birds Great Brit.*, iv, 1897, 106, pl. 104.—CHAPMAN, *Bull. Am. Mus. N. H.*, xii, 1899, 223 (Holsteinborg, Greenland, June, July).—HARTERT and GRANT, *Novit. Zool.*, xii, 1905, 99 (San Miguel, Azores).—FLEMING, *Auk*, xxiii, 1906, 441 (Toronto, Ontario, Dec. 10, 1889; Hamilton, Ontario, Dec. 9, 1893).—BROWN (E. J.), *Auk*, xix, 1912, 399 (Smith's Island, Virginia, March 29, 1912).
- A[ica] torda* KEYSERLING and BLASIUS, *Wirb. Eur.*, 1840, pp. xci, 236.—RIDGWAY, *Man. N. Am. Birds*, 1887, 18.

- P[inguinus] torda* BONNATERRE, Tabl. Enc. Méth., i, 1790, 29, pl. 16, fig. 1.
Pinguin torda LACÉPÈDE and DAUDIN, in Buffon Hist. Nat., ed. Didot, Quadr., xiv, 1799 (1802), 313.
- Utamania torda* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 42.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 27.—BONAPARTE, Geog. and Comp. List, 1838, 66.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 153.—MACGILLIVRAY, Brit. Birds, v, 1852, 346.—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 249 (Gulf of St. Lawrence and coast of Labrador; habits, etc.); 1868, 18 (monogr.); Check List, 1873, no. 616; 2d ed., 1882, no. 877.—VERRILL, Proc. Essex Inst., iii, 1862, 160 (breeding about Bay of Fundy).—FITZINGER, Atl. Nat. Vög., 1864, fig. 345.—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 300 (vicinity New York City).—FRITSCH, Nat. Vög. Eur., 1870, 491; Atlas, 1871, pl. 59, fig. 7.—KUMLEN, Bull. U. S. Nat. Mus., no. 15, 1879, 103 (Labrador; w. coast Greenland).—SCOTT, Bull. Nutt. Orn. Club, iv, 1879, 228 (Long Beach, New Jersey, Feb.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 742); Nom. N. Am. Birds, 1881, no. 742.—GIGLIOLI, Ibis, 1881, 221 (Italian records); Avif. Ital., 1886, 443, 569; 1 Resoc. Avif. Ital., 1889, 656; 2 Resoc., 1890, 663; 3 Resoc., 1891, 518.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 242 (Point de Monte, Quebec; Mingan Islands, breeding).—STEARNS and COUES, New Engl. Bird-life, ii, 1883, 400.—DUTCHER, Auk, ii, 1885, 38 (Southampton, Long Island, 3 specs., Jan., Feb.).
- [*Utamania*] *torda* COUES, Key N. Am. Birds, 1872, 340.
U[tamania] torda COUES, Key N. Am. Birds, 2d ed., 1884, 818.
- Utamia torda* BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 411 (Bird Rocks, Gulf St. Lawrence, breeding; habits).
- [*Chenalopez*] *torda* GRAY, Hand-list, iii, 1871, 95, no. 10774.
- [*Alca*] *unisuclata* BRÜNNICH, Orn. Bor., 1764, 25.
- [*Alca*] *balthica* PONTOPPIDAN, Danske Atlas, i, 1763, 621, pl. xxvi, fig.—BRÜNNICH, Orn. Bor., 1764, 25.—BREHM, Handb. Vög. Deutschl., 1831, 1002.
- [?] *Alia alle* (not *Alca alle* LINNÆUS) BODDAERT, Tabl. Pl. Enl., 1763, 58 (Pl. Enl., pl. 1003).
- [*Alca*] *baltica* GMELIN, Syst. Nat., i, pt. ii, 1789, 551.
- [*Alca*] *pica* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 210 (Arctic circle).—GMELIN, Syst. Nat., i, pt. ii, 1789, 551.
- Alca pica* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 361.
- P[inguinus] pica* BONNATERRE, Tabl. Encl. Méth., i, 1790, 30.
- Pinguin pica* LACÉPÈDE and DAUDIN, in Buff. Hist. Nat., ed. Didot, Quadr., xiv, 1799 (1802), 313.
- Utamania pica* LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 42.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 30.
- Alca glacialis* BREHM, Handb. Vög. Deutschl., 1831, 1004.
- Alca islandica* BREHM, Handb. Vög. Deutschl., 1831, 1006, pl. 46, fig. 2.
- Alca microrhynchos* BREHM, Vogelf., 1855, 410.
- [*Alca torda*] β LATHAM, Index Orn., ii, 1790, 793 (based on *Alca pica* LINNÆUS).
- [*Alca torda*] γ LATHAM, Index Orn., ii, 1790, 794 (based on *Alca balthica* BRÜNNICH).

Genus URIA Brisson.

- Uria* BRISSON, Orn., vi, 1760, 70. (Type, by tautonymy, [*Uria*] *uria* BRISSON = *Colymbus troille* LINNÆUS.)
- Lomvia* BRANDT, Bull. Acad. St. Pétersb., ii, 1837, 345. (Type, *Colymbus troille* LINNÆUS.)
- Cataractes* "Moehr[ing]" GRAY, List Gen. and Subgen. Birds, 2d ed., 1841, 98. (Type, by original designation, *Colymbus troille* LINNÆUS.)

Large Alcinae (wing 182-230 mm.) with the narrow and pointed bill much longer than tarsus, without transverse grooves, the culmen nearly straight basally, gently curved distally; loreal antia forming a distinct angle about midway between culmen and tomium or nearer to the former than to the latter, and tail slightly rounded, with rectrices not pointed.

Bill much longer than tarsus, elongate-subconical, moderately compressed, without grooves; culmen nearly straight basally, gradually decurved terminally, or gently curved from near base the curvature increasing distally, sometimes ascending or more or less elevated at extreme base; gonys long (but shorter than distance from nostril to tip of maxilla), more or less prominent basally, faintly concave sub-basally; maxillary tomium faintly convex near middle portion, faintly concave distally, distinctly notched subterminally; mandibular tomium nearly straight for basal half or more, slightly decurved distally; mandibular rami covered for most of its extent with short, dense, velvety feathering, only the anterior portion and a narrow strip along upper (tomial) edge unfeathered, the anterior outline of the feathering forming an oblique doubly curved line (concave below, convex above) from the mental antia to near the tomial edge; whole loreal region, including nasal fossae, clothed with similar dense, short, velvety feathering, this forming a prominent angle or antia between nostril and culmen (its apex decidedly anterior to anterior end of nostril), the longitudinally elliptical or narrowly oval nostrils overhung (except anteriorly) by the lower edge of this feathering. Wing moderate, the longest primary (outermost or two outermost) exceeding distal secondaries by more than half the length of wing. Tail about one-fourth as long as wing, slightly rounded, the rectrices 12 in number, not pointed. Tarsus sometimes longer, sometimes shorter, than exposed culmen,^a the acrotarsium transversely scutellate, but scutella broken, more or less, on inner side of upper portion; middle toe, without claw, much longer than tarsus; outer toe (without claw) as long as middle toe, the inner as long as first two phalanges of middle toe.

Plumage and coloration.—Feathering of head (especially the anterior portion) very dense, soft, and velvety; a narrow crease or furrow from posterior angle of eye to side of nape, following upper margin of auricular region. Upper parts plain grayish brown or dusky, the secondaries narrowly but sharply tipped with white; under parts immaculate white, the outer portion of sides and flanks streaked with grayish brown. In breeding plumage, sides of head and neck, chin, throat, and foreneck uniform velvety brown; in winter, chin, throat, foreneck, and sides of head and neck white, broken by a

^a Owing to extensive feathering of basal portion of maxilla, the exposed culmen is considerably shorter than the actual length of the bill.

dusky postocular stripe. Young similar to winter adults, but without white on sides of occiput, white of foreneck faintly mottled with dusky, and bill smaller.

Range.—Circumpolar regions, migrating southward in winter. (Three—possible only two—species.)

KEY TO THE SPECIES AND SUBSPECIES OF URIA.

- a. Depth of bill at gonydeal angle equal to less than one-third the length of exposed culmen; basal portion of maxillary tomium always black, like rest of maxilla; pileum and hindneck deep olive-brown to deep brownish drab; summer adults with sides of head and neck, chin, throat, and foreneck, olive-brown to brownish drab.
 - b. A white orbital ring, continued backward and downward in a narrow post-ocular-supra-auricular streak. (North Atlantic.).....*Uria ringvia* (p. 719).
 - bb. No white orbital ring nor postocular streak. (*Uria troille*.)
 - c. Wing averaging shorter (197 in male, 190.7 in female), middle toe shorter (43.9 in male, 43.7 in female), and bill averaging less deep at gonydeal angle (13.6 in male, 12.9 in female). (Coasts and islands of northern Atlantic Ocean.)
Uria troille troille (p. 721).
 - cc. Wing averaging longer (203.9 in male, 204 in female), middle toe longer (45.9 in male, 45 in female) and bill deeper at gonydeal angle (14.1 in male, 15 in female). (Coasts and islands of northern Pacific Ocean and Bering Sea, south to California.).....*Uria troille californica* (p. 724).
- aa. Depth of bill at gonydeal angle more than one-third the length of exposed culmen; basal portion of maxillary tomium whitish in adults; pileum and hindneck sooty slate-blackish; summer adults with sides of head and neck, chin, throat, and foreneck darker olive-brown or clove brown. (*Uria lomvia*.)
 - b. Averaging slightly smaller (wing 208.2 in male, 203.5 in female; tarsus 35.3 in male, 34.1 in female; middle toe 43.6 in male, 44.2 in female); basal portion of maxillary tomium more conspicuously whitish. (Coasts and islands of northern Atlantic and adjacent portions of Arctic Ocean.)
Uria lomvia lomvia (p. 726).
 - bb. Averaging larger (wing 221.7 in male, 217.2 in female; tarsus 36.7 in male, 36.5 in female; middle toe 45.9); basal portion of maxillary tomium less conspicuously whitish. (Coasts and islands of northern Pacific Ocean, Bering Sea, and adjacent parts of Arctic Ocean.).....*Uria lomvia arctica* (p. 730).

URIA RINGVIA Brännich.

RINGED MURRE.

Similar to *U. troille*, but with a narrow white ring completely encircling eye and continued backward and downward, as a narrow streak bordering upper and posterior margins of the auricular region, to sides of nape.

Adults in breeding season (sexes alike).—Head and neck, all round, plain soft grayish brown (between olive-brown and clove brown), relieved by a narrow orbital ring and postocular streak of white, the latter confluent with the former and occupying the crease which follows the upper margin of the auricular region; upper parts dusky grayish brown (nearly chestnut drab but more grayish, especially on tips of feathers), the secondaries narrowly but sharply tipped white:

under parts, including median portion of lower foreneck, white, immaculate except outer portion of sides and flanks, where streaked with grayish brown; bill black; iris dark brown; legs and feet blackish? (said to be lighter colored than those of *U. troille*).^a

Adult male.—Wing, 193–211 (201.7); tail, 48–50.5 (49.1); exposed culmen, 39–45.5 (43.2); tarsus, 37–38 (37.7); middle toe, 43–47 (45.6).^b

Adult female.—Wing, 202; tail, 47; exposed culmen (bill defective); tarsus, 35; middle toe, 46.^c

Coasts and islands of northern Atlantic Ocean and eastward to Spitzbergen; southward to coast of eastern Maine in winter; breeding on islands in Gulf of St. Lawrence (Gannet Rock; Bird Rocks; Grosse Isle; Magdalen Islands) and northward, on European side southward to Outer Hebrides, Grimsay Island, etc., rarely to coast of France (Aiguilles d'Etretat).

[*Uria*] *ringvia* BRÜNNICH, Orn. Bor., 1764, 28 (Iceland).

Uria ringvia SCHMIDT, Eur. Fauna, i, 1840, 359.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 157.—DEGLAND, Orn. Eur., ii, 1849, 513.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 914.—BAIRD, Cat. N. Am. Birds, 1859, no. 730.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 600.—SAMUELS, Nests and Eggs N. Am. Birds, 1883, 570.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 481 (under *U. troille*).—(?) SCHALOW, Journ. für Orn., 1891, 271 (Alaska).—SHARPE, Handb. Birds Great Brit., iv, 1897, 119, pl. 107.

Uria (Lomvia) ringvia BRANDT, Bull. Sci. Ac. St. Petersb., ii, 1837, 345.

Catarractes ringvia BRYANT, Proc. Bost. Soc. N. H., viii, 1861, 139 (monogr.).

Lomvia ringvia COUES, Proc. Ac. Nat. Sci. Phila., 1868, 77 (monogr.).—GOM, Trans. Kansas Ac. Sci., viii, 1883, 60 (Bird Rocks, Gulf of St. Lawrence, breeding; habits).—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 410 (Bird Rocks, breeding; crit.).

Uria troille, var. *ringvia* COLLETT, Forh. Vid. Selsk. Christiania, 1868, 192.—GRAY, Cat. Birds Brit. Mus., xxvi, 1898, 575.

[*Uria*] *rhingvia* KEYSERLING and BLASEUS, Wirb. Eur., 1840, pp. xciii, 238.

Uria rhingvia NAUMANN, Vög. Deutschl., xii, 1844, 524, pl. 332.—REICHENBACH, Natatores, 1850, pl. 8, figs. 37, 38.

[*Uria*] *hringvia* REINHARDT (J.), Journ. für Orn., 1854, 442 (Greenland).

[*Uria*] *rhingvia* GRAY, Hand-list, ii, 1871, 161, no. 10821.

Uria wringvia FRITSCH, Nat. Vög. Eur., 1870, 495; Atlas, 1871, pl. 59, fig. 5.

Uria rhingvia GRÖNDAL, Ornith., iii, 1887, 597 (etymology).

(?) *Uria alga* BRÜNNICH, Orn. Ber., 1764, 28 (Denmark).

[*Uria*] *troille leucophthalmos* FABBRE, Prodr. Orn., 1822, 42 (Iceland; color variety); Isis, 1824, 146.

Uria leucophthalmos THOMPSON, Nat. Hist. Ireland, iii, 1851, 211.—KJAERFJELLING, Danm. Fugle, 1852, 408, pl. 52, fig. 5.

[*Uria*] *leucophthalmus* HÖLBOLL, Naturhist. Tidssk., iv, 1843, 454 (Greenland).

^a I have not been able to examine specimens in winter plumage nor of the young.

^b Five specimens.

^c One specimen.

Four adults of unknown sex measure as follows: Wing, 188–204 (195.4); tail, 45.5–53 (49.1); exposed culmen, 41–48.5 (44.1); tarsus, 34–37 (35.4); middle toe, 42–46 (44.1).

Uria lacrymans LESSON, *Traité d'Orn.*, 1831, 638.—GRAY (R.), *Birds West Scotland*, 1871, 424.

[*Uria*] *lacrymans* SHARPE, *Hand-list*, i, 1899, 130.

Uria lacrymans VALENCIENNES, in *Choris, Voy. Pittor.*, 1822, *Aléout.*, 27, pl. 23 (Newfoundland; ex *La Pylaie*, manuscript).—WERNER, *Atlas, Palmipèdes*, 1828, pl. 98.—GOULD, *Birds Eur.*, v, 1837, pl. 397 and text.—YARRELL, *Brit. Birds*, i, 1843, preface, p. xi; iii, 1843, 351.—MACGILLIVRAY, *Brit. Birds*, v, 1852, 326.—WATTERS, *Nat. Hist. Birds Ireland*, 1853, 229.

Uria troile lacrymans SCHALOW, *Vögel der Arktis*, 1904, 127 (synonymy, range, etc.).

Uria lacrimalis "Kretschmar" SCHINZ, *Thierreich*, iv, 1826, 532.

Uria leucopis BREHM, *Beitr. Vogelk.*, iii, 1823, 880 (Iceland); *Isis*, 1826, 888; *Handb. Vög. Deutschl.*, 1831, 982.

Uria troile (not *Colymbus troile* LINNÆUS) BONAPARTE, *Ann. Lyc. N. Y.*, ii, 1828 ("Synopsis"), 424.—AUDUBON, *Orn. Biog.*, iii, 1835, 142, pl. 218; *Synopsis*, 1839, 350; *Birds Am.*, 8vo ed., vii, 1844, 267, pl. 473.—GOULD, *Birds Great Brit.*, v., 1873, pl. 48, rear fig., and text, part.—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 477, part.

[*Uria*] *troile* RIDGWAY, *Man. N. Am. Birds*, 1887, 18, part.

[*Lomvia*] *troile* COUES, *Key N. Am. Birds*, 1872, 346, part.

[*Uria troile*] β LATHAM, *Index Orn.*, ii, 1790, 787, part (based on *Colymbus minor* Gmelin, *Uria svarbag* and *U. ringvia* BRÜNNICH; etc.).

(?) [*Uria troile*] γ LATHAM, *Index Orn.*, ii, 1790, 797 (based on *Uria alga* BRÜNNICH).

URIA TROILLE TROILLE (LINNÆUS).

MURRE.

Adults in breeding plumage (sexes alike).—Head and neck plain olive-brown or sepia to nearly clove-brown, little if any darker on pileum and hindneck, but sometimes slightly more grayish on crown; rest of upper parts plain dark grayish brown (nearest chætura drab or fuscous, but more grayish than the latter), the secondaries narrowly but sharply tipped with white; under parts, including median portion of lower foreneck, white, immaculate except on outer portion of sides and flanks, where broadly streaked with grayish brown; bill black; inside of mouth yellow; iris dark brown; legs and feet dull black or dusky.

Winter plumage.—Whole under side of head, foreneck, malar, suborbital, and auricular regions, and stripe on each side of occiput white, the latero-occipital area separated from the white below it, except posteriorly, by a postocular stripe of dark smoky brown, extending along upper edge of auriculars; bill and feet more brownish.

Young.—Similar to winter adults but without white on sides of occiput, and white of foreneck faintly mottled with grayish brown or dusky; bill smaller.

Downy young.—Head and neck sooty black, finely streaked with dull grayish white; upper parts plain deep grayish brown or brownish gray, the sides and flanks similar but paler; chest, breast, abdomen, and anal region immaculate white.

Adult male.—Wing, 191–204.5 (197); tail, 44–52 (46.8); exposed culmen, 40–49.5 (46.8); depth of bill at gonydeal angle, 13–15 (13.6); tarsus, 34–39 (36.6); middle toe, 41–46 (43.9).^a

Adult female.—Wing, 185–208 (190.7); tail, 41–50.5 (46.7); exposed culmen, 40–50 (43.5);^b depth of bill at gonydeal angle, 12.7; tarsus, 33.5–39.7 (35.6); middle toe, 40–48 (43.7).^b

Coasts and islands of northern Atlantic Ocean and eastward to Spitzbergen; breeding from southern Greenland southward to Newfoundland, Magdalen Islands, and Bay of Fundy, on European side as far as coast of Portugal (Berlenga Island); in winter southward to coast of Maine, coast of Spain, and, rarely, adjacent portion of Mediterranean Sea.

[*Colymbus*] *troille* LINNÆUS, Fauna Suecica, ed. 2, 1761, 52 (Spitzbergen).

Uria troille NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 526.

Uria troille troille AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, p. 31.

Catarractes troille BRYANT, Proc. Bost. Soc. N. H., viii, 1861, 137 (monogr.).

[*Colymbus*] *troile* LINNÆUS, Syst. Nat., ed. 12, i, 1766, 220.—GMELIN, Syst. Nat., i, pt. ii, 1789, 585.

Colymbus troile BODDAERT, Tabl. Pl. Enl., 1783, 54 (Pl. Enl., pl. 903).—O'REILLY, Greenland, 1818, 144.

[*Uria*] *troile* LATHAM, Index Orn., ii, 1790, 796.—REINHARDT (J.), Journ. für Orn., 1854, 442 (Greenland).—GRAY, Hand-list, iii, 1871, 101, no. 10620.—SHARPE, Hand-list, i, 1899, 130.

Uria troile BONNATERRE, Tabl. Enc. Méth., i, 1790, 35, pl. 9, fig. 3.—TEMMINCK, Cat. Syst., 1807, 182; Man. d'Orn., 1815, 606; 2d ed., pt. ii, 1820, 921; iv, 1844, 573.—VIEILLLOT, Nouv. Dict. d'Hist. Nat., xiv, 1817, 35, part, pl. E, fig. 3.—MEYER and WOLF, Taschenb. Deutschl., 1810, 445.—BOIE, Isis, 1822, 872.—VALENCIENNES, in Choris Voy. Pittor. autour du Monde, 1822, Aléout, 25, pl. 20.—STEPHENS, Shaw's Gen. Zool., xii, pt. 2, 1824, 244.—WERNER, Atlas, Palmipèdes, 1828, pl. 95.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 477.—BREHM, Handb. Vög. Deutschl., 1831, 981.—GOULD,

^a Nine specimens.

^b Sixteen specimens.

^c Two specimens.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Three adult males from Europe.....	195.8	45	47.5	13	36.3	44.1
Six adult males from Atlantic coast of North America.....	197.6	47.7	48.4	13.3	36.6	45.1
Ten adult males from Pacific coast of North America (<i>U. t. californica</i>).....	203.9	48.9	46.1	14.1	36.3	45.9
Five adult males of <i>U. ringvia</i>	201.7	49.1	43.2	.....	37.7	45.4
FEMALES.						
Six adult females from Europe.....	196.2	46.6	46.6	12.7	35.2	43.1
Ten adult females from Atlantic coast of North America.....	198.8	46.8	41.9	13.2	36.1	44.1
Eleven adult females from Pacific coast of North America (<i>U. t. californica</i>).....	204	48.6	45.7	15	36.3	46
One adult female of <i>U. ringvia</i>	202	47	.....	.....	35	45

- Birds Europe, v, 1837, pl. 396 and text; Birds Great Brit., v, pl. 48, front fig., and text.—BONAPARTE, Geog. and Comp. List, 1838, 65.—SCHINZ, Eur. Faun., i, 1840, 360.—YARRELL, Brit. Birds, iii, 1843, 343.—GRAY, List Birds Brit. Mus., pt. iii, Anseres, 1844, 156.—DE KAY, Zool. N. Y., ii, 1844, 279.—DEGLAND, Orn. Eur., ii, 1849, 511.—REICHENBACH, Natatores, 1850, pl. 8, figs. 32-36.—THOMPSON, Nat. Hist. Ireland, iii, 1851, 207.—KJÆRBØLLING, Danm. Fugle, 1852, 408, pl. 52, fig. 4.—MACGILLIVRAY, Brit. Birds, v, 1852, 318.—WATERS, Nat. Hist. Birds Ireland, 1853, 226.—REINHARDT, Ibis, 1861, 16 (Greenland).—MORE, Ibis, 1865, 449 (Great Britain).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 598.—SMITH, Ibis, 1868, 457 (Portugal).—COLLETT, Forh. Vid. Selsk. Christiania, 1868, 192.—BRANDT, Mélang. Biol., vii, 1869, 205.—DROSTE, Journ. für Orn., 1869, 350 (Faroe Islands; habits).—GRAY (R.), Birds West Scotland, 1871, 420.—HARTING, Handb. Birds Great Brit., 1872, 74.—IRBY, Orn. Straits Gibralt., 1875, 218; 2d ed., 1895, 304; Ibis, 1883, 190 (Santander, Spain).—PALMÉN, Journ. für Orn., 1876, 65 (Finland).—MAYNARD, Birds E. N. Am., 1881, 500.—COLLINS, Rep. Com. Fisheries for 1882 (1883), 334 (Grand Banks, off Newfoundland, etc., habits).—CHAMBERLAIN, Bull. Nutt. Orn. Club, viii, 1883, 9 (New Brunswick).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 477.—DIXON, Ibis, 1885, 89 (St. Kilda).—SAUNDERS, ed. Yarell's Brit. Birds, iv, 1885, 60; Illustr. Man. Brit. Birds, 1889, 683.—SUNDEVALL, Svensk. Fogl., iii, 1885, 1103, pl. 52, fig. 4.—LÜTTKEN, Ornis, 1885, 143; 1886, 97 (Denmark).—GRÖNDAL, Ornis, 1886, 367 (Iceland).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 30.—BOOTH, Rough Notes, iii, pt. xiv, 1887, 2 pls.—BISHOP, Auk, vi, 1889, 145 (Magdalen Islands).—LILFORD, Col. Figs. Brit. Birds, pt. xxi, 1892.—BLAGG, Ibis, 1893, 358 (Shetland Islands).—SHARPE, Handb. Birds Great Brit., iv, 1897, 114, pl. 106.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 573, part.—FLEMING, Auk, xxiii, 1906, 452 (no valid Great Lakes record!).
- U[ria] troile* GRAY, Gen. Birds, iii, 1848, 645.—RIDGWAY, Man. N. Am. Birds, 1887, 18.
- [*Uria troile*] *α. troile* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 476.
- Uria troile troile* SCHALOW, Vögel der Arktis, 1904, 126 (synonymy, range, etc.).—HANTZSCH, Journ. für Orn., 1908, 315 (Labrador).
- Uria (Lomvia) troile* BRANDT, Bull. Sci. Ac. St. Petersb., ii, 1837, 345.
- Alca troile* MALMGREN, Journ. für Orn., 1865, 265 (crit.).—DRESSER, Birds Europe, viii, 1877, 567, pl. 621, rear fig.—NEWTON, Proc. Zool. Soc. Lond., 1877, 2 (descr. variety).—SEEBOHM, Hist. Brit. Birds, iii, 1885, 388.
- Lomvia troile* COUES, Proc. Ac. Nat. Sci. Phila., 1868, 75 (monogr.); Check List, 1873, no. 634, part; 2d ed., 1882, no. 874.—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 160 (monogr.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 763); Nom. N. Am. Birds, 1881, no. 763.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 241 (Point de Monts, Quebec, in winter; sometimes very numerous).—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 409 (Bird Rocks and Perroquet Island, Gulf of St. Lawrence, breeding; habits).—STEARNS and COUES, New Engl. Bird Life, ii, 1883, 397.—SALVADORI, Ucc. Ital., 1887, 297.—TAIT, Ibis, 1887, 399 (Berlenga Island, Portugal, breeding).—GIGLIOLI, Avif. Ital., i, 1889, 659.—EVANS, Ibis, 1891, 83 (length of incubation, 30-33 days).—PEARSON and BIDWELL, Ibis, 1894, 237 (Hjemsö, n. Norway).
- [*Lomvia troile* COUES, Key N. Am. Birds, 1872, 346, part.
- L[omvia] troile* COUES, Key N. Am. Birds, 2d ed., 1884, 816.
- Catarractes troile* VERRILL, Proc. Essex Inst., iii, 1862, 160 (breeding about Bay of Fundy).
- [*Colymbus*] *minor* GMELIN, Syst. Nat., i, pt. ii, 1789, 585, part (England).

Uria minor STEPHENS, Shaw's Gen. Zool., xii, pt. 2, 1824, 246.

Uria norvegica BREHM, Handb. Vög. Deutschl., 1831, 983.

Uria intermedia NILSSON, Skand. Fauna, ii, 1835, 506.

Uria lomvia (not *Alca lomvia* LINNÆUS) BRÜNNICH, Orn. Bor., 1764, 27.—NATMANN, Vög. Deutschl., xii, 1844, 508, pl. 331.—REICHENBACH, *Natator*, 1850, pl. 8, figs. 39-42.—SCHINZ, Nat. Vög., 1853, 221, pl. 102.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 918.—BAIRD, Cat. N. Am. Birds, 1859, no. 729.—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 300 (vicinity New York City).—FRITSCH, Nat. Vög. Eur., 1870, 493; Atlas, 1871, pl. 60, fig. 7.—SAMUELS, Nests and eggs N. Am. Birds, 1883, 568.—HARTERT, Ibis, 1902, 522 (Danzig, Germany).

U[ria] lomvia KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcii, 238.

Alca lomvia SCHLEGEL, Mus. Pays-Bas, vi, no. 38 (Urinatores), 1867, 15.

Uria brünnichii (not of Sabine, 1817) BATTYE, Icebound on Kolguev, 1895, 20; Ibis, 1896, 155.

(?) [*Colymbus troile*, var.] ♂ DONNDORFF, Beytr. Zool., ii, pt. i, 1794, 875.

(?) [*Colymbus troile*, var.] γ DONNDORFF, Beytr. Zool., ii, pt. i, 1794, 876.

(?) "*Columbus langvia* PLAFF, Reise n. Isl. p. 562."^a (Bryant.)

URIA TROILLE CALIFORNICA (Bryant).

CALIFORNIA MURRE.

Similar to *U. t. troille* but with wing, culmen, and middle toe averaging longer and bill deeper through gonydeal angle, with culmen less curved.

Adult male.—Wing, 199-212 (203.9); tail, 45-51 (47.4); exposed culmen, 43.5-50 (46.1); depth of bill at gonydeal angle, 13-15 (14.7); tarsus, 34-38 (36.3); middle toe, 43-50 (45.9).^a

Adult female.—Wing, 182-223.5 (204); tail, 39-53 (45.6); exposed culmen, 42-58 (45.7);^a depth of bill at gonydeal angle, 14-15.7 (15);^b tarsus, 33-40.6 (36.3); middle toe, 43-48.3 (45).^c

^a The correct citation is probably *Colymbus langvigia* Olafsson, Reise, etc. (Coes.)

^b Eleven specimens.

^c Four specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Depth of bill at gony- deal angle.	Tarsus.	Middle toe.
MALES.						
Two adult males from California.....	199	45.5	44.7	14	37.2	45.7
Two adult males from Washington (July).....	204	48	48.5	14.5	37.2	45.5
Seven adult males from Alaska.....	205.3	47.9	45.7	14.1	35.7	45.1
FEMALES.						
Three adult females from California.....	189	43.5	45	.....	34.7	44.6
Eight adult females from Alaska.....	209.7	47.1	45.9	15	36.9	45.1

Should the difference in size between specimens from California on the one hand and those from Washington and northward prove constant, the name *californica* should be restricted to the southern form (the diagnosis of the subspecies being at the same time emended, since the California bird is *not* larger than the Atlantic one), and a new name provided for the northern subspecies.

Coasts and islands of northern Pacific and Bering Sea, from California to Alaska and across to eastern Siberia, thence southward to northern Japan; breeding from Farallon Islands, California, to Norton Sound, Pribilof Islands, St. Matthew Island, and Aleutian Islands, Alaska, and Commander Islands, Kamchatka; in winter southward to southern California (Santa Monica), Kuril Islands, and northern Japan (Hakodate); has been recorded from coast of eastern Siberia, Wrangel Island, and Herald Island.

Uria troile (not *Colymbus troile* Linnæus) VIEILLLOT, Nouv. Dict. d'Hist. Nat., xiv, 1817, 35, part (Kamchatka; Pacific coast North America).—CHORIS, Voy. Pittor., Aléout., 1822, pl. xx.—NEWBERRY, Rep. Pacific R. R. Surv., vi, pt. iv, 1857, 110 (Farallon Islands, etc., California).—BLAKISTON and PRYER, Ibis, 1878, 211 (Hakodate, Japan); Trans. Asiat. Soc. Japan, viii, 1880, 180 (Hakodate, Japan); x, 1882, 91 (Hakodate, Japan).—BLAKISTON, Amend. List Birds Japan, 1884, 32.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 573, part (Kuril Islands; Bering Island; Stewarts Island and St. Michaels, Alaska; Monterey and Farallon Islands, California).

[*Uria*] *troile* SHARPE, Hand-list, i, 1899, 130, part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 51, part (Kamchatka).

[*Lomvia*] *troile* COUES, Key N. Am. Birds, 1872, 346, part.

Lomvia troile COUES, Check List, 1873, no. 634, part.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 172 (Cook Inlet, Alaska).

Alca troile SEEBOHM, Birds Japanese Emp., 1890, 273, part.

Uria lomvia (not *Cephus lomvia* Pallas, 1826) DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309, part (Kadiak Island, Alaska).

Uria brünnichii (not *Uria brünnichi* Sabine, 1817) HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, 1859, Birds, p. 75 (Farallon Islands; habits).

Catarractes californicus BRYANT (H.), Proc. Bost. Soc. N. H., viii, 1861, 142 (Farallon Islands, California).

Lomvia californica COUES, Proc. Ac. Nat. Sci. Phila., 1868, 79, fig. 16 (monogr.).

Uria californica DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Sitka and Kadiak, Alaska).—FINSCH, Abh. Nat. Ver. Bremen, iii, 1872, 77 (Alexandrovsk; crit.).—DALL, Proc. Calif. Ac. Sci., v, 1873, 34 (Unalaska Island); v, 1874, 280 (Aleutian Islands).—STEFNEGER, Naturen, 1884, 54 (Commander Islands).—GRINNELL, Pacific Coast Avif., no. 3, 1902, 11 (California range).

[*Lomvia troile*] var. *californica* COUES, Key N. Am. Birds, 1872, 346, in text.

Lomvia troile var. *californica* COUES, in Elliott's Affairs in Alaska, 1875, 210 (Pribilof Islands; crit.).

Lomvia troile, var. *californica* ELLIOTT, Monogr. Pribylov Group, 1882, 135 (much less numerous than *L. arra*).

Lomvia troile californica RIDGWAY, Proc. U. S. Nat. Mus., iii, Sept. 4, 1880, 212 (Cat. N. Am. Birds, no. 763a); Nom. N. Am. Birds, 1881, no. 763a.—COUES, Check List, 2d ed., 1882, no. 875.—NELSON, Cruise 'Corwin' in 1881 (1883), 117 (Aleutian Islands).

[*Lomvia*] [*troile*] *californica* COUES, Key N. Am. Birds, 2d ed., 1884, 817.

[*Uria troile*] β . *californica* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 476, under *U. troile*.

[*Uria*] *troile californica* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 479, under fig.—RIDGWAY, Man. N. Am. Birds, 1887, 18.

- Uria troile californica* STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 20 (Commander Islands); Proc. U. S. Nat. Mus., xxi, 1898, 271 (Kuril Islands).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886 and 2d ed., 1895, no. 30a.—EVERMANN, Auk, iii, 1886, 88 (Ventura Co., California).—TURNER, Contr. N. H. Alaska, 1886, 122 (north to St. Matthew Island; not at St. Michaels).—NELSON, Rep. N. H. Coll. Alaska, 1887, 45 (Sitka; Kodiak; Aleutian Islands; Pribilof Islands; Herald Island; Wrangell Island).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., i, 1888, 31 (Farallon Islands; breeding; habits; descr. nest and eggs).—TACZANOWSKI, Mém. Ac. S. Petersb., xxxix, 1893, 1219 (e. Siberia).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., vi, 1896, 20 (coast California).—GRINNELL (J.), Auk, xv, 1898, 15 (Sitka).—SEALE, Proc. Ac. Nat. Sci. Phila., 1898, 129 (near Aleutian Islands).—PALMER (W.), Avif. Pribilof Islands, 1899, 389 (breeding; habits, etc.).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 232 (Homer, Cook Inlet, Alaska; breeding at Kodiak Island and Kachemak Bay).—RAY, Auk, xii, 1904, 431 (Farallon Islands; habits, etc.).—JONES, Wilson Bull., xxi, 1909, 9, figs. (1), 7, 8, 9 (Carroll Inlet, Washington, breeding; habits, etc.).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 33 (San Francisco, California, to Aleutian Islands; Commander Islands).
- Uria troile californica* AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, p. 31.—GRINNELL (J.), Pacific Coast Avif., no. 11, 1915, 19 (breeding on Farallon and San Miguel islands, Point Reyes, etc.).
- Alca troile californica* SEEBOHM, Hist. Brit. Birds, iii, 1885, 389.

URIA LOMVIA LOMVIA (Linnaeus).

BRÜNNICH'S MURRE.

Adults in breeding plumage (sexes alike).—Sides of head and neck, chin, throat, and foreneck, uniform clove brown, passing into sooty slate-blackish on pileum and hindneck; upper parts plain sooty slate-blackish (similar to but rather more grayish than color of hindneck and pileum), the secondaries narrowly but sharply tipped with white; under parts, including median portion of lower foreneck, immaculate white, the exterior feathers of sides and flanks broadly edged on outer webs with sooty blackish; bill black, the basal half (approximately) of maxillary tomium bluish gray, sometimes conspicuously light-colored; iris dark brown; legs and feet dusky brown (said to be tinged with reddish in life).

Winter plumage.—Whole throat, foreneck, malar, subocular, and auricular regions, and sides of occiput white, the last separated (except posteriorly) by a narrow blackish postocular stripe; white of latero-occipital area and lower part of foreneck faintly mottled transversely with dusky; otherwise as in summer.

Young.—Similar to winter adults, but without white on sides of occiput and with bill smaller.

Downy young.—Above dusky grayish brown or sooty, the head and neck finely streaked with pale buffy grayish; throat, foreneck, sides, and posterior under parts pale brownish gray, the chest, breast, and abdomen dull white.

Adult male.—Wing, 198–215 (208.2); tail, 46–49.5 (48); exposed culmen, 30.5–36.5 (34.3); depth of bill at gonydeal angle, 13.5–14.5 (14); tarsus, 32.5–38 (35.3); middle toe, 40–45.5 (43.6).^a

Adult female.—Wing, 198–209 (203.5); tail, 47–51 (48.9); exposed culmen, 31–37.5 (35.1); depth of bill at gonydeal angle, 13–14.5 (14); tarsus, 30.5–37 (34.1); middle toe, 41–46.5 (44.2).^b

Coasts and islands of northern Atlantic Ocean and eastward to Cape Chelyuskin (Taimyr Peninsula), Novaya Zemlya, Jan Mayen Land, Spitzbergen, etc.; in North America breeding from southern Ellesmere Land and northern Greenland (Cape Alexander) to northern portion of Hudson Bay, coast of Labrador, and islands in Gulf of St. Lawrence (Bird Rocks); in winter southward to coast of Maine, etc., casually, or during severe winters, to Virginia (Cape Charles, Dec. 31, 1890), North Carolina (Newberne, Dec. 22 or 23, 1896), and South Carolina (Anderson, Dec. 19, 1896, 8 specimens), and in the interior to New York (Seneca Lake, Dec. 13, 1895, May, 1876, and Dec. 26, 1896; Orleans County, Dec. 5 and 25, 1894; Johnstown), Ontario (Lake Ontario, frequent in winter; near Kingston, July, 1897, 3 specimens; Toronto, numerous in Nov. and Dec., 1893); Ohio (Sandusky Bay, Dec. 19, 1896, 3 specimens; Lorain, Dec. 25, 1896, 6 specimens; near Jefferson, Ashtabula County, Dec., 1897), Indiana (Fall Creek, near Indianapolis, Dec. 17, 1896; Hazelrigg, Boone County, Dec. 15, 1896; near Fowler, Benton County, Dec. 20, 1896; near Reynolds, White County, March, 1869; Iroquois Township, Newton County, Dec. 31, 1896), Illinois (Picard, Dec. 10, 1896), Michigan (near Greenville, Dec. 13, 1894; near Gibraltar, Dec. 26, 1896, flock of 10), and Iowa; in Europe, southward in winter to Norway and (more rarely) British Islands.

[*Alca lomvia* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 130 (n. Europe; based on *Lomvia* Clusius, Exot., 367, etc.).

Catarractes lomvia BRYANT, Proc. Bost. Soc. N. H., viii, 1861, 140, figs. 1, 4 (monogr).

^a Five specimens.

^b Four specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Depth of bill at gony- deal angle.	Tarsus.	Middle toe.
MALES.						
One adult male from Spitzbergen.....	206.5	49.5	36.5	14.5	35	45
Four adult males from Atlantic coast of North America.....	208.6	47.6	33.7	13.9	35.4	43.2
Eight adult males from Alaska (<i>U. l. arctica</i>).....	221.7	51.1	42.4	14.6	36.7	45.9
FEMALES.						
One adult female from Spitzbergen.....	204	51	36.5	13	34	45.5
Three adult females from Greenland.....	203.3	48.2	34.7	14.3	34.2	43.8
Six adult females from Alaska (<i>U. l. arctica</i>).....	217.2	51.6	38.6	14.4	36.5	45.9

- Uria (Cataractes) lomvia* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 256 (coast of Labrador; habits, etc.).
- Uria lomvia* BRYANT, Proc. Bost. Soc. N. H., viii, 1861, 75.—BLAKISTON, *Ibis*, 1863, 155 (York Factory, Hudson Bay).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 485, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 31.—CHAMBERLAIN, Auk, vi, 1889, 213 (s. Greenland).—BISHOP, Auk, vi, 1889, 146 (Magdalen Islands).—AVERILL, Auk, viii, 1891, 367 (Connecticut).—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 146 (Straits of Bell Isle); Birds E. Penn. and N. J., 1894, 40 (coast New Jersey; Dauphin Co., Pennsylvania).—JOHNSON, Auk, xii, 1895, 177 (Oneida Co., New York. Dec. 5 and 25, 1894).—TREAT, Auk, xii, 1895, 177 (Rocky Hill, Connecticut, Nov. 18, 1893).—FRASER, Auk, xii, 1895, 290 (Johnstown, New York).—BARROWS, Auk, xii, 1895, 387 (near Greenville, Michigan, Dec. 13, 1894).—DE HAVEN, Auk, xiii, 1896, 171 (Cape Charles, Virginia, Dec. 31, 1890).—MORRIS, Auk, xiv, 1897, 100 (near Springfield, Massachusetts, 2 specs., Dec. 29, 1896).—BUTLER, Auk, xiv, 1897, 197 (Fall Creek, near Indianapolis, Indiana, Dec. 17, 1896; Hazelrigg, Boone Co., Dec. 15, 1896; near Fowler, Benton Co., Dec. 20; near Reynolds, White Co., March, 1899; near Pickard, Illinois, Dec. 10); Proc. Ind. Ac. Sci., 1897, 180 (Iroquois Township, Newton Co., and other Indiana records; Picard, Illinois, Dec. 10, 1896; several Michigan and Ohio records).—JONES (L.), Wilson Bull., no. 13, 1897, 16 (Sandusky Bay, Ohio, 3 specs., Dec. 19, 1896); no. 25, 1899, 26 (Lorain, Ohio, six specs., Dec. 25, 1896); xxi, 1909, 68 (Sandusky Bay, etc., n. Ohio).—MORRIS, Auk, xiv, 1897, 100 (near Springfield, Massachusetts, 2 specs., Dec. 29, 1896).—CHAPMAN, Auk, xiv, 1897, 202 (Seneca Lake, New York, Dec. 23, 1895, May, 1896, and Dec. 26, 1896); Bull. Am. Mus. N. H., xii, 1899, 220 (Holsteinborg, Greenland, July 5; descr. young in different stages; habits).—PEARSON, Auk, xiv, 1897, 202 (Newberne, North Carolina, Dec. 22 or 23, 1896).—WHITTAKER, Auk, xiv, 1897, 202 (Cape Charles, Virginia, Dec. 17, 1896, 8 specs.).—COUES, Auk, xiv, 1897, 203 (Anderson, South Carolina, Dec. 19, 1896).—WOODBUFF, Auk, xiv, 1897, 228 (Newton Co., Indiana, Dec. 31, 1896).—BARTSCH, Auk, xiv, 1897, 313 (Potomac R., near Washington, D. C., 6 specs., Dec. 14, 1896-Jan. 1, 1897).—CLARKE (C. K.), Auk, xiv, 1897, 410 (frequent on Lake Ontario in winter; 3 seen in July, 1897, near Kingston, Ontario).—BIGELOW, Auk, xix, 1902, 26 (coast of n. e. Labrador, breeding).—FLEMING, Auk, xxiii, 1906, 441 (Toronto, Ontario, numerous in Nov. and Dec., 1893).—SIM, Wilson Bull., xx, 1908, 54 (near Jefferson, Ashtabula Co., Ohio, Dec., 1907).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 577, part.
- [*Uria*] *lomvia* SHARPE, Hand-list, i, 1899, 130.—FORBES and ROBINSON, Bull. Liverpool Mus., ii, no. 2, 1899, 52 (Iceland; Arctic America).
- [*Uria*] *lomvia* RIDGWAY, Man. N. Am. Birds, 1887, 18.
- [*Uria lomvia*] *α. lomvia* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 477, 485, 486.
- Uria lomvia lomvia* SCHALOW, Vög. der Arktis, 1904, 127 (synonymy, range, etc.).—HANTZSCH, Journ. für Orn., 1908, 314 (Labrador).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, p. 32.
- Uria svarbag* BRÜNNICH, Orn. Bor., 1764, 27 (Iceland).
- Lomvia svarbag* COUES, Proc. Ac. Nat. Sci. Phila., 1868, 80, part (monogr.).
- Uria brünnichii* SABINE, Trans. Linn. Soc., xii, 1819, 538 (Greenland).—MEYER, App. to Meyer and Wolf's Taschenb. Vög. Deutschl., 1822, 178.—BREHM, Handb. Vög. Deutschl., 1831, 984.—SCHINZ, Nat. Abbild. Vög., 1833, 374 pl. 129.—NILSSON, Skand. Faun., ii, 1835, 506.—KJAERBÖLLING, Dansk Fugle, 1852, 409 pl. 52, fig. 3.—GRAY (R.), Birds West Scotland, 1871, 422.—

- HEUGLIN, Journ. für Orn., 1872, 124 (Novaya Zemlya; Waigats).—SUNDEVALL, Svensk. Fogl., iii, 1885, 1114, pl. 80, figs. 3, 4.—LILFORD, Col. Figs. Brit. Birds, pt. xxxii, 1896.
- Uria brunnichii* VALENCIENNES, in Choris, Voy. Pittor. autour du Monde, Aléout., 1822, 26, pl. 21 (Baffin Bay; Davis Strait).—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 424.—SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 477.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 529.—AUDUBON, Orn. Biog., iii, 1835, 336, pl. 245; Synopsis, 1839, 349; Birds Am., 8vo ed., vii, 1844, 265, pl. 472.—GOULD, Birds Europe, v, 1837, pl. 398 and text.—YARBELL, Brit. Birds, iii, 1843, 348.—MACGILLIVRAY, Brit. Birds, v, 1862, 314.—TURNBULL, Birds E. Penn. and N. J., 1869, 50.
- [Uria] brunnichii* TEMMINCK, Man. d'Orn., 2d ed., iv, 1840, 576.
- [Uria] brunnichii* REINHARDT (J.), Journ. für Orn., 1854, 442 (Greenland).
- Uria arctica brunnichii* RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 764a); Nom. N. Am. Birds, 1881, no. 764a.—NELSON, Cruise 'Corwin' in 1881 (1883), 118 (Spitzbergen; Novaya Zemlya; Probosc Island; east of Cape Cheljuskin).
- Uria brunnichii* HEUGLIN, Journ. für Orn., 1871, 105 (n. Europe); 1872, 124 (Novaya Zemlya).—COLLETT, Journ. für Orn., 1874, 455 (Norway).—WALTER, Journ. für Orn., 1890, 240 (Spitzbergen; food), 243, 247, 249, 251 (e. Spitzbergen).
- Uria brunnichii* BONAPARTE, Geog. and Comp. List, 1838, 65.—GRÖNDAL, Ornith. ii, 1886, 366 (Iceland).—SCHALOW, Journ. für Orn., 1895, 460 (w. Greenland).
- [Uria] brunnichii* TSCHUSI and HOMEYER, Ornith. ii, 1886, 174 (local names).
- Uria brunnichii* REINHARDT, Ibis, 1861, 16 (Greenland).—CLARKE (W. E.), Ibis, 1899, 50 (Whale Point Harbor, King Ludwig Islands, Ryk-ys Islands, King Charles Islands, and Olga Straits, e. Spitzbergen).
- Uria brunnichii* NEWTON, Ibis, 1865, 520 (Spitzbergen; habits).—GILLET, Ibis, 1870, 308 (Novaya Zemlya).—HEUGLIN, Ibis, 1872, 64 (Novaya Zemlya and Waigats, n. Russia).—SNEBOHM, Ibis, 1882, 383 (Archangel, Russia).—SAUNDERS, ed. Yarrell's Brit. Birds, iv, 1885, 76; Illustr. Man. Brit. Birds, 1889, 685.—SHARPE, Handb. Birds Great Brit., iv, 1897, 120.—TREVOR-BATTYE, Ibis, 1897, 597 (Spitzbergen; habits).—CLARKE (W. E.), Ibis, 1898, 270 (Franz Josef Land, breeding; habits).
- Alca brunnichii* DRESSER, Birds Eur., viii, 1877, 575, pl. 622.
- Alca brunnichii* FEILDEN, Ibis, 1877, 410 (Buchanan Strait, 79° N., breeding north to Cape Alexander, Baffin Bay).
- Lomvia brunnichii* PEARSON, Ibis, 1896, 213 (Russian Lapland), 225 (Novaya Zemlya; habits; descr. eggs); 1898, 204 (Novaya Zemlya).
- Lomvia arctica brunnichii* RIDGWAY, Cat. Aquat. and Fish-eating Birds, May, 1883, 42.—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 411 (Bird Rocks, Gulf of St. Lawrence, breeding; habits).—DUTOHER, Auk, ii, 1885, 38 (s. side Long Island, 12 specs., Jan. 8–Mar. 24, 1884).
- Alca brunnichii* MALMGREN, Öfver. K. Vet.-Akad. Förh., 1863, 111.
- [Uria troile] var. brunnichii* COLLETT, Forh. Vid. Selsk. Christiania, 1868 (1869), 192.
- Alca troile brunnichii* SNEBOHM, Hist. Brit. Birds, iii, 1885, 338.
- [Uria] arctica* (not *Cephus arctica* Pallas, 1826) KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcii, 237.
- Uria arctica* NAUMANN, Vög. Deutschl., xii, 1844, 535, pl. 333.—GRAY, List Birds Brit. Mus., pt. iii, Anseres, 1844, 156.—DEGLAND, Orn. Eur., ii, 1849, 514.—CASSIN, in Baird, Rep. Pacific R. Surv., ix, 1858, 914, part (New Jersey; etc.).—BAIRD, Cat. N. Am. Birds, 1859, no. 731, part.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 602.—BRANDT, Mélang. Biol., vii, 1869, 205.—FRITSCH,

Nat. Vög. Europ., 1870, 404; Atlas, 1871, pl. 59, fig. 6.—PERKINS, Am. Nat., vii, 1873, 240 (Fairfax, Vt., Dec.).—PALMÉN, Vega-Exped., 1887, 385 (Spitzbergen, Van Mëjen Bay, etc.).—CLARKE (W. E.), Zoologist, 1890, 43 (Jan Mayen Land; habits).

[*Uria*] *arra* LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 300 (vicinity New York City).

[*Lomvia*] *arra* COUES, Key N. Am. Birds, 1872, 346, part.

Lomvia arra COUES, Check List, 1873, no. 635, part; 2d ed., 1882, no. 876, part.—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 160, part (monogr.).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 105 (Resolution Island; Grinnell Bay, Cumberland Gulf).—GOSS, Trans. Kansas Ac. Sci., viii, 1883 59 (Bird Rocks, Gulf of St. Lawrence).—STEARNS and COUES, New Engl. Bird Life, ii, 1883, 398.

Alca arra SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 16.

Uria troile (not of Linnæus, 1758) BRÜNNICH, Orn. Bor., 1764, 27 (Iceland).

Uria troile WOOD (N. A.), Bull. Mich. Orn. Club, 1897, 10 (near Gibraltar, Michigan; flock of 10, Dec. 26, 1896).

Uria francesii LEACH, Trans. Linn. Soc., xii, 1819, 538, 588 ("near Ferrol").—TEMMINCK, Man. d'Orn., 2d ed., pt. ii, 1820, 924.—STEPHENS, Shaw's Gen. Zool., xii, pt. 2, 1824, 243.—WERNER, Atlas, Palmipèdes, 1828, pl. 96.—SCHINZ, Europ. Faun., i, 1840, 360.—DE KAY, New York Zool., Birds, 1844, 280.

Uria polaris BREHM, Lehrb. Eur. Vög., pt. ii, 1824, 931 (Greenland); Handb. Vög. Deutschl., 1831, 984, pl. 45, fig. 1.

[*Uria troile*] β LATHAM, Index Orn., ii, 1790, 797 (based partly on *Uria sverbe* Brünnich).

URIA LOMVIA ARRA (Pallas).

PALLAS'S MURRE.

Similar to *U. l. lomvia* but larger, and with basal portion of maxillary tomium less conspicuously light colored. (Downy young with color of upper parts and lateral under parts darker, and with white of under parts purer and more abruptly defined.)^a

Adult male.—Wing, 214–229.9 (221.7);^b tail, 42–54.5 (51.1);^c exposed culmen, 39–46 (42.4); depth of bill at gonydeal angle, 14–15 (14.6); tarsus, 35–40.6 (36.7); middle toe, 43.2–47 (45.9).^b

Adult female.—Wing, 207–225 (217.2); tail, 46–57 (51.6); exposed culmen, 36–42 (38.6); depth of bill at gonydeal angle, 13.5–15 (14.4); tarsus, 35–38 (36.5); middle toe, 43.5–48.5 (45.9).^d

Coasts and islands of Bering Sea and adjacent portions of Arctic and northern Pacific Oceans; breeding from Koliutschin, Wrangel, and Herald islands, Point Barrow (and Herschel Island?) southward to Kodiak Island, Aleutian Islands, and Commander Islands; in winter southward to northern Japan (Kuril Islands; Sakhalin Island; Yezo, between Hakodate and Mororau).^e

^a Possibly not a constant character.

^b Eight specimens, from Alaska.

^c Five specimens (from Alaska).

^d Six specimens, from Alaska.

^e Apparently there are no records for the American coast south of Kodiak Island.

- Cepphus lomvia* (not *Alca lomvia* Linnæus, 1758) PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 345.
- Uria lomvia* TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri, e. Siberia); Bull. Soc. Zool. France, ii, 1877, 51 (Abrek Bay, e. Siberia); Orn. Faun. Vost. Sibir., 1877, 74.
- Cepphus arra* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 347 (Kamchatka).
- Uria arra* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 914, part (Herald Island); Proc. Ac. Nat. Sci. Phila., 1862, 324 (Herald Island).—BAIRD, Cat. N. Am. Birds, 1859, no. 731, part.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Kodiak Island; St. George Island, Pribilof group).—TACZANOWSKI, Bull. Soc. Zool. France, vii, 1882, 398 (Bering Island).—STEJNEGER, Naturen, 1884, 54 (Commander Islands).
- [*Uria*] *arra* SHARPE, Hand-list, i, 1899, 131.
- [*Lomvia*] *arra* COUES, Key N. Am. Birds, 1872, 346, part.
- Lomvia arra* COUES, Check List, 1873, no. 635, part; 2d ed., 1882, no. 876, part; in Elliott's Affairs in Alaska, 1875, 211 (Pribilof Islands, breeding; habits, etc.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 764); Nom. N. Am. Birds, 1881, no. 764.—ELLIOTT, Monogr. Pribylov Group, 1882, 135 (breeding; habits).—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. France, ix, 1884, 147 (Kamchatka; Bering Island).—MURDOCH, Auk, ii, 1885, 63 (Point Barrow, Alaska, May-Dec.).
- [*Lomvia*] *arra* COUES, Key N. Am. Birds, 2d ed., 1884, 817, part.
- Lomvi arra* NELSON, Cruise 'Corwin' in 1881 (1883), 117 (Herschel and Wrangel Islands, "breeding by thousands").
- [*Uria lomvia*] b. *arra* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 485, 486 (under *Uria lomvia*).
- U[ria] lomvia arra* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 486, under fig.—RIDGWAY, Man. N. Am. Birds, 1887, 18.
- Uria lomvia arra* STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 17 (Commander Islands, Kamchatka); Proc. U. S. Nat. Mus., xxi, 1898, 271 (Kuril Islands).—TURNER, Auk, ii, 1885, 159 (Attu Island, Aleutian chain, resident); Contr. N. H. Alaska, 1886, 122 (St. Michaels, etc.; habits).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 31a; 3d ed., 1910, p. 32.—NELSON, Rep. N. H. Coll. Alaska, 1887, 45 (Herschel Island; Wrangel Island; Pribilof and Aleutian Islands; Kodiak Island; etc.; habits).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 98 (Priiylf Islands; Otter Island, June; Unalaska, in fall).—TACZANOWSKI, Mém. Acad. St. Petersb., xxxix, 1893, 1217 (e. Siberia).—SCHALOW, Vögel der Arktis, 1904, 129 (synonymy, range, etc.).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 34 (Unalaska to Commander Islands; Petropaulski and Cape Lopatka, Kamchatka; Kuril Islands; Yezo, between Hakodate and Mororau, Japan; Sakhalin Island).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 9 (breeding at Koliutschin Island, e. Siberia).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 369 (Bering Sea; Copper Island and Petropavlosk, Kamchatka; East Cape, Siberia; St. Lawrence Island).
- Alca troile arra* SEEBOHM, Ibis, 1885, 364 (Japan; Kuril Islands; crit.)
- Alca troila* (not *Colymbus troille* Linnæus, 1758) SEEBOHM, Birds Japan, 1890, 273, part.
- Lomvia svarbag* (not *Uria svarbag* Brünnich) COUES, Proc. Ac. Nat. Sci. Phila., 1868, 80, part (monogr.).
- Uria bruennichii* (not of Sabine, 1817) BLAKISTON and PRYER, Ibis, 1878, 211; Trans. Asiat. Soc. Japan, viii, 1880, 180; x, 1882, 91.—BLAKISTON, Amend. List Birds Japan, 1884, 32.

Genus *CEPPHUS* Pallas.

Cephus PALLAS, Spic. Zool., v, 1769, 33 (Type, *C. lacteolus* Pallas = *Alca grylle* Linnæus, albino.)

Grylle LEACH, in Ross's Voy. Disc. Baffin's Bay, App., 1819, p. li. (Type, *G. scapularis* LEACH = *Alca grylle* Linnæus.)

Pseuduria Sharpe MS. COUES, Osprey, iii, May (pub. June 10), 1899, 144. (Type, "Black guillemots with 14 rectrices" = *Cephus columba* Pallas, etc.)—SHARPE, Hand-list, i [July 12], 1899, xiv, 131.

Medium-sized Alcids (wing 149–181 mm.) with bill narrow, culmen rather abruptly decurved terminally, gonys much less than half as long as unfeathered portion of mandibular rami, and nasal fossæ unfeathered for nearly the anterior half (the feathered portion forming a distinct angle or loral antia), with the slit-like nostrils in lower edge.

Bill (measured from rictus) about as long as head, narrow, decidedly deeper than wide at base of culmen; exposed culmen about as long as tarsus, faintly concave sub-basally (the mesorhinium slightly ascending basally, more or less flattened on top), thence nearly straight to near tip, where rather abruptly decurved; gonys nearly straight, ascending terminally, much shorter than unfeathered portion of mandibular rami, decidedly less than half as long as culmen; nostril longitudinal, slit-like, in extreme lower edge of the nasal fossa, the latter well-defined and rounded anteriorly, the basal half (more or less) feathered, the latero-frontal or loral antia forming a distinct angle, the apex of which is slightly posterior to anterior end of nostril, its lower edge overhanging and concealing basal portion of nostril; malar antia forming a distinct angle, its apex slightly posterior to posterior end of nostril; mental antia on same vertical line with latero-frontal antia. Wing moderate, the longest primary (outermost) exceeding distal secondaries by less than half the length of wing. Tail less than one-third (slightly more than three-sevenths) as long as wing, rounded the 12–14 rectrices rounded at tip. Tarsus about as long as exposed culmen, much compressed, the outer side reticulate, the inner side (except on planta tarsi) with much larger, more or less quadrate and transverse, scales, arranged in two or more rows; middle toe, without claw, slightly longer than tarsus; outer toe (without claw) as long as, or very slightly shorter than, middle toe, the inner toe as long as first two phalanges of middle toe.

Plumage and coloration.—Plumage of head dense, rather short (especially anteriorly) but less velvety than in *Uria* and other Alcids. Adults in summer plain sooty black or dark sooty-brown, with or without white on wing-coverts; feet red (in life); winter plumage and young mostly white.

Range.—Circumpolar regions and southward to northeastern United States, California, and Japan. (Five, possibly six, species.)

KEY TO THE SPECIES OF *CEPPHUS*.

1. Smaller (exposed culmen less than 35, tarsus not more than 35 mm.).
- b. Under wing-coverts pure white; rectrices 12.
- c. Greater wing-coverts with at least their basal half black, this often showing as a narrow band beyond tips of middle coverts. (Coasts of northern Europe and eastern North America, from southern Greenland to Labrador, south, in winter to New Jersey, etc.).....*Cephus grylle* (p. 733).
- cc. Greater wing-coverts white to extreme base (sometimes a little dusky along concealed median basal portion). (Coasts and islands of Arctic Ocean and northern Atlantic Ocean, breeding southward to Hudson Bay and coast of Labrador; in winter south to New Jersey and Norton Sound, Alaska.).....*Cephus mandtii* (p. 737).
- bb. Under wing-coverts light brownish gray; rectrices 14.
- c. Greater wing-coverts broadly tipped with white, the white on middle and posterior lesser coverts forming a conspicuous patch, separated into two only on distal coverts. (Coasts and islands of northern Pacific Ocean, south to California and Japan.).....*Cephus columba* (p. 740).
- cc. Greater wing-coverts very narrowly (if at all) tipped with white; the white on middle and posterior lesser coverts (if present) forming three entirely separated bands. (Sometimes no white at all on wings.) (Kuril Islands to southern Kamchatka and northern Japan.)...*Cephus snowi* (extralimital).^a
- aa. Larger (exposed culmen not less than 41.9, tarsus not less than 35.6). (No white on wings).
- b. No white on head (color entirely sooty or blackish). (Greenland, Iceland, etc.)
Cephus motzfeldi (p. 742).
- bb. A whitish orbital and postocular area. (Coasts and islands of northeastern Asia, from northern Japan to Sea of Okotsk and Commander Islands, Kamchatka; occasional or accidental on Aleutian Islands?).....*Cephus carbo* (p. 743).

CEPPHUS GRYLLE (Linnaeus).

BLACK GUILLEMOT.

Adults in summer ^b (sexes alike).—Plain fuscous-black or very dark fuscous, faintly glossed with greenish, especially on back, scapulars, and rump; posterior lesser, middle, and distal half of greater wing-coverts immaculate white, forming a large patch on the wing, sometimes superficially uninterrupted but usually broken by exposure of the black of basal portion of greater coverts, which also have the greater part of inner webs black; axillars and under wing-coverts, except along edge of wing, immaculate white; bill black; inside of mouth vermilion red; iris dark brown; legs and feet vermilion red (in life), the claws blackish.

Winter plumage.—Wings and tail only as in summer; rest of plumage pure white, the pileum, back, scapulars, and upper part of rump

^a *Cephus snowi* Stejneger, Auk, xiv, April, 1897, 201 (Raikoka Island, Kuril group, Japan; coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., xxi, 1898, 272 (Kuril Islands); Clark (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 33 (Cape Lopatka, Kamchatka; Kuril Islands; n. end of Yezo, Japan); Oberholser, Auk, xxxiv, 1917, 191 (record in Niedieck's Kreuzfahrten im Bering meer, 1907, 250, for Kenai River, Alaska, probably not valid).—*Uria snowi* Grant, Cat. Birds, Brit. Mus., xxvi, 1898, 588 (Kuril Islands; Petropaulski, Kamchatka).—[*Pseuduria*] *snowi* Sharpe, Hand-list, i, 1899, 131.

^b This plumage is sometimes carried through the winter, perhaps by very old birds

variegated with black, the whole of concealed and part of exposed portions of the feathers being of the latter color; legs and feet paler red.

Young.—Similar to the winter plumage but white wing-patch broken by blackish tips to all the feathers, the secondaries and primary coverts with terminal spots of white, rump and under parts indistinctly barred with dusky, and pileum showing little of concealed dusky.

Downy young.—Plain deep sooty brown, darker on head, paler and more grayish on abdomen.

Adult male.—Wing, 154–174.5 (164.2); tail, 49.5–54 (51.7); exposed culmen, 31–34 (32.5); tarsus, 30–35 (32.5); middle toe, 36–40 (38).^a

Adult female.—Wing, 156–171 (163.5); tail, 47–56 (51.5); exposed culmen, 29–33.5 (31.2); tarsus, 31–31.5 (31.2); middle toe, 36–36.5 (36.2).^a

Coasts and islands of northern Atlantic Ocean and eastward to White Sea, northern Russia; breeding from southern Greenland and Ungava to coast of Maine (islands from Mount Desert eastward), islands in Gulf of St. Lawrence (Grand Entry Island), northern Norway, Shetland Islands, etc.; southward during migration to Connecticut (Stony Creek, Dec. 19, 1895), Rhode Island (off Sakonnet, Dec. 30, 1906; off Newport, Nov. 28, 1909), and New Jersey (Egg Harbor and Cape May, dates not recorded; Delaware River, near Chester, Dec., 1898), in western Europe southward to British Islands and northern France.

[*Colymbus grylle* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 130 (s. Sweden); ed. 12 i, 1766, 220.—GMELIN, Syst. Nat., i, pt. ii, 1789, 584.

Colymbus grylle O'REILLY, Greenland, 1818, 145, pl. 14, fig. 2.

^a Two specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Sweden	174.5	54	34	35	40
One adult male from Newfoundland	154	49.5	31	30	38
FEMALES.					
One adult female from Sweden	171	56	33.5	31.5	36.5
One adult female from Canada (Peace Harbor)	156	47	29	31	36
SEX UNKNOWN.					
One adult from Norway (Bergen)	151.5	47	32	28.5	35

- Uria grylle* BRÜNNICH, Orn. Bor., 1764, 28.—MEYER and WOLF, Taschenb. Deutschl., 1910, 446.—TEMMINCK, Man. d'Orn., 1815, 608; 2d ed., pt. ii, 1820, 927.—VIBILLLOT, Gal. Ois., ii, 1825, 236.—FABER, Isis, 1827, 635 (Iceland).—WERNER, Atlas, Palmipèdes, 1828, pl. 97.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 423; Geog. and Comp. List, 1838, 65.—SCHINZ, Nat. Abbild. Vög., 1833, 370, pl. 129; Europ. Faun., i, 1840, 361.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 523, part.—NILSSON, Skand. Faun., ii, 1835, 508.—AUDUBON, Orn. Biog., iii, 1835, 148, part, pl. 219; v, 1839, 627, part; Synopsis, 1839, 350; Birds Am., 8vo, vii, 1844, 272, part, pl. 474.—GOULD, Birds Europe, v, 1837, pl. 399 and text; Birds Great Brit., v, 1869, pl. 49 and text.—YARRELL, Brit. Birds, iii, 1843, 355.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 157, part.—DEGLAND, Orn. Eur., ii, 1849, 316.—REICHENBACH, Natatores, 1850, pl. 8, figs. 43–46.—THOMPSON, Nat. Hist. Ireland, iii, 1851, 214.—KJÆRØLLING, Danm. Fugle, 1852, 410, pl. 62, figs. 1, 2.—MACGILLIVRAY, Brit. Birds, v, 1852, 331.—WATTERS, Nat. Hist. Birds Ireland, 1853, 229.—REINHARDT (J.), Journ. für Orn., 1854, 442 (Greenland); Ibis, 1861, 16 (Greenland).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 911, part.—BAIRD, Cat. N. Am. Birds, 1859, 726, part.—GODMAN, Ibis, 1861, 92 (Bodo, Norway).—VERRILL, Proc. Essex Inst., iii, 1862, 160 (coast Maine, resident; breeds on islands from Mount Desert eastward).—BLAKISTON, Ibis, 1863, 54 (Hudson Bay; Hudson Straits).—MORE, Ibis, 1865, 450 (Great Britain).—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 300 (vicinity New York City, in winter).—DEGLAND and GERBE, Orn. Eur., ii, 1867, 602.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 68, part, fig. 13; Check List, 1873, no. 631, part; 2d ed., 1882, no. 871, part.—DROSTE, Journ. für Orn., 1869, 353 (Faroes).—BRANDT, Mélang. Biol., vii, 1869, 207, part.—GRAY (R.), Birds West Scotland, 1871, 427.—HARTING, Handb. Brit. Birds, 1872, 74.—PALMÉN, Journ. für Orn., 1876, 65 (Finland).—DRESSER, Birds Europe, viii, 1877, 581, pl. 623.—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 158, part (monogr.).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 104 (Cumberland Gulf; Greenland, breeding).—BOARDMAN, Bull. Nutt. Orn. Club, v, 1880, 190 (seasonal plumages).—MAYNARD, Birds E. N. Am., 1881, 500.—SEEBOHM, Ibis, 1882, 383 (Onega Bay, Russia).—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 408 (Great Entry Island, Gulf St. Lawrence, breeding; habits).—SAMUELS, Nests and Eggs N. Am. Birds, 1883, 567.—STEARNS and COUES, New Engl. Bird Life, ii, 1883, 396.—SAUNDERS, ed. Yarrell's Brit. Birds, iv, 1885, 81; Illustr. Man. Brit. Birds, 1889, 687.—DIXON, Ibis, 1885, 89 (St. Kilda).—SUNDEVALL, Svensk. Fogl., iii, 1885, pl. 52, figs. 5, 6.—LÜTKEN, Ornis, 1885, 142 (Denmark).—GRÖNDAL, Ornis, 1886, 367, 612 (Iceland).—HARTERT, Ibis, 1892, 522 (e. Prussia).—LILFORD, Col. Figs. Brit. Birds, pt. xxiii, 1893.—BLAGG, Ibis, 1893, 358 (Shetland Islands, breeding).—PEARSON and RIDWELL, Ibis, 1894, 237 (n. Norway, breeding).—COLLETT, Forh. Vidensk.-Selsk. Christiania, 1895, 3 (considers *C. motusfeldi* a melanistic variety).—SCHALOW, Journ. für Orn., 1895, 461 (w. Greenland).—PEARSON, Ibis, 1896, 213 (Medveji Island, Russian Lapland).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 580.
- [*Uria*] *grylle* LATHAM, Index Orn., ii, 1790, 797.—GRAY, Hand-list, iii, 1871, 101, no. 10816.—COUES, Key N. Am. Birds, 1872, 345; part.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52.
- U[ria] grylle* KEYSERLING and BLASIVS, Wirb. Eur., 1840, pp. xcii, 237.—GRAY, Gen. Birds, iii, 1848, 645.—COUES, Key N. Am. Birds, 2d ed., 1884, 814, part.
- Uria* (*Uria*) *grylle* COUES, Proc. Ac. Nat. Sci. Phila., 1861, 255 (coast Labrador; habits, etc.).
- Cephus grylle* BREHM, Handb. Vög. Deutschl., 1831, 987, pl. 45, fig. 2.—SCHINZ, Nat. Vög., 1853, 221, pl. 102.

Cephus grylle NAUMANN, Vög. Deutschl., xii, 1844, 461, pl. 330.—REICHENBACH, *Natatores*, 1850, pl. 9, fig. 2234.—COLLETT, Forh. Vid. Selsk. Christian, 1868, 191.—STEJNEGER, Proc. U. S. Nat. Mus., v, 1884, 224 (range), 23 (synonymy).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 492.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 254 (Hudson Strait and s. shores Labrador, breeding).—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, and 2d ed., 1895, no. 27; 3rd ed., 1910, p. 30.—CHAMBERLAIN, *Auk*, vi, 1889, 213 (s. Greenland).—BISHOP, *Auk*, vi, 1889, 145 (Magdalen Islands).—SAGE, *Auk*, vii, 1890, 283 (Stony Creek, Connecticut, Dec., 1887).—WARREN, *Birds Penn.*, 1890, 9.—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 145 (Disko Island, Greenland, Aug. 8); *Birds E. Penn. and N. J.*, 1894, 40 (New Jersey records); *Birds New Jersey*, 1909, 44 (New Jersey records).—SHARPE, *Handb. Birds Great Brit.*, iv, 1897, 123, pl. 108.—KNIGHT, *List Birds Maine*, 1897, 15 (breeding along coast from Knox Co. eastward).—CHAPMAN, *Bull. Am. Mus. N. H.*, xii, 1899, 220 (Holsteinborg, Greenland, 36 out of 37 specimens this species; Disko Harbor, July 28).—BIGELOW, *Auk*, xix, 1902, 26 (coast n. e. Labrador, breeding).—FLEMING, *Auk*, xxiii, 1906, 441 (Toronto, Ontario, Dec. 19, 1895).—ARNOLD, *Auk*, xxix, 1912, 75 (Newfoundland, breeding).—HATHAWAY, *Auk*, xxx, 1913, 545 (off Sakonnet Point, Rhode Island, Jan. 1, 1906; Newport, Rhode Island, Dec. 30, 1906; off Newport, Nov. 28, 1909).

[*Cephus grylle*] SHARPE, *Hand-List*, i, 1899, 131.

Cephus grylle grylle HANTZSCH, *Journ. für Orn.*, Jan., 1908, 143, 144, in text.

[*Cephus grylle*] HANTZSCH, *Journ. für Orn.*, 1908, 311, in text.

Alca grylle SCHLEGEL, *Mus. Pays-Bas*, vi, no. 33 (*Urinatores*), 1867, 17.—SIEBOHM, *Hist. Brit. Birds*, iii, 1885, 383.

Uria gryllus VIEILLOT, *Nouv. Dict. d'Hist. Nat.*, xiv, 1817, 36.

Colymbus gryllus MÜLLER, *Zool. Dan. Prodr.*, 1776, 18.

[*Uria gryllus*] BRÜNNICH, *Orn. Bor.*, 1764, 28 (Norway?).

[*Uria grylle*] LATHAM, *Index Orn.*, ii, 1790, 798 (= *U. grylloides* Brünnich).

[*Uria*] *balthica* BRÜNNICH, *Orn. Bor.*, 1764, 28 (Christianse).

[*Uria grylle*] γ LATHAM, *Index Orn.*, ii, 1790, 798 (= *U. balthica* Brünnich).

[*Uria grylle*] δ LATHAM, *Index Orn.*, ii, 1790, 798 (Christiania, Norway).

Cephus lacteolus PALLAS, *Spicil. Zool.*, fasc. v, 1769, 33 (Holland; = color variety).

[*Colymbus*] *lacteolus* GMELIN, *Syst. Nat.*, i, pt. ii, 1789, 583.

[*Uria*] *lacteola* LATHAM, *Index Orn.*, ii, 1790, 798.

Uria lacteola VIEILLOT, *Nouv. Dict. d'Hist. Nat.*, xiv, 1817, 36.

[*Uria lacteola*] β LATHAM, *Index Orn.*, ii, 1790, 798 (Rhine; cites Gmelin, *Syst. Nat.*, i, 584).

[*Uria*] *nivea* BONNATERRE, *Tabl. Enc. Méth.*, i, 1790, 37.

Uria leucoptera VIEILLOT, *Nouv. Dict. d'Hist. Nat.*, xiv, 1817, 35 (locality unknown).

Uria arctica BREHM, *Lehrb. Eur. Vög.*, pt. ii, 1824, 923 (Greenland).

Cephus arcticus BREHM, *Handb. Vög. Deutschl.*, 1831, 988.

Uria scapularis (not *Grylle scapularis* Leach, 1819?) STEPHENS, *Shaw's Gen. Zool.*, xii, pt. 2, 1824, 250, part.

Grylle grænlædicus GRAY, *List Gen. Birds*, 1840, 77 (ex Brisson).

Uria mandti (not of Lichtenstein, 1822) REICHENBACH, *Natatores*, 1850, pl. 9, fig. 47.

Cephus mandti REICHENBACH, *Natatores*, 1850, pl. 9, fig. 2233.

Cephus grylle var. *variegata* REICHENBACH, *Natatores*, 1850, pl. 9, fig. 2235.

Grylle columba (not *Cephus columba* Pallas, 1826) FRITZINGER, *Atlas Nat. Vög.*, 1864, fig. 341.—FRITSCH, *Nat. Vög. Eur.*, 1870, 495; *Atlas*, 1871, pl. 33, figs. 2, 3.

CEPPHUS MANDTI (Mandt).**MANDT'S GUILLEMOT.**

Similar to *C. grylle*, but greater wing-coverts white to extreme base (sometimes with median basal portion dusky), the white wing-patch wholly unbroken; size slightly less.

Adults in breeding plumage (sexes alike).—Uniform fuscous-black or very dark fuscous, faintly glossed with greenish, especially on back, scapulars, and rump; posterior lesser, middle, and greater wing-coverts entirely white, (the feathers all white to extreme base) forming a large, unbroken, and sharply defined patch on wing; axillars and under wing-coverts (except along edge of wing) immaculate white; inner webs of primaries extensively white basally, except along shafts; bill black; inside of mouth vermilion red; iris dark brown; legs and feet vermilion red, the claws blackish.

Winter plumage.—Wings and tail as in summer; rest of plumage pure white, the pileum, back, scapulars, and upper part of rump variegated with black, the concealed and part of the exposed portion of the feathers being black; legs and feet paler red.

Young.—Similar to the winter plumage, but white wing-patch broken by blackish tips to the feathers (their concealed bases white, however), the secondaries and primary coverts with white terminal spots, the rump and under parts indistinctly barred with grayish dusky, and pileum with much less of black.

Downy young.—Plain sooty blackish or dark fuscous, paler and more grayish on under parts.

Adult male.—Wing, 150.5–165 (158.1); tail, 40.5–51 (47.7); exposed culmen, 28–33 (29.6); tarsus, 29–32 (30.6); middle toe, 33–38 (35.2).^a

Adult female.—Wing, 149–156.5 (153.1); tail, 44–51 (47.5); exposed culmen, 28–31 (29.7); tarsus, 28–30 (29.4); middle toe, 33–35.5 (34.2).^b

^a Eight specimens.^b Four specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from Siberia (Cape Bolshaja)	152.5	50	30	30	34.5
One adult male from Spitzbergen	161	47.5	30	29	33
Six adult males from eastern North America (Greenland to Massachusetts)	158.6	47.3	29.4	31	35.7
FEMALES.					
One adult female from Spitzbergen	156.5	46.5	31	30	35.5
One adult female from Ungava	153	48.5	28	30	33
One adult female from Newfoundland	149	44	30	28	33.5
One adult female from northern Alaska (Point Barrow)	154.5	51	.....	29.5	35

Coasts and islands of the Arctic Ocean (both hemispheres); breeding northward to northern Greenland (McCormick Bay; Melville Bay), North Devon, Smith Sound (lat. 82° 33' N.), Washington Irving Island, Grinnell Land (Bache Island), Melville Island, etc., in Arctic America, Herald Island, Wrangell Island, New Siberian Islands, Bennett Island, Bären Island, Crown Prince Rudolf Land, King Ludwig Islands, Spitzbergen, Franz Josef Land, Jan Mayen Land, etc., north of Siberia, southward to Hudson Bay (Fort George; Cape Fullerton), Ungava (Ungava Bay), coast of Labrador (Groswater Bay), Newfoundland (Bay de Nord), Quebec (Point du Monts;^a north shores of St. Lawrence River as far as mouth of Saguenay River^a), and points along Arctic coast of Siberia (Cape Irkaipij; Cape Kibera Island); in winter southward (at least casually) to coast of Massachusetts (Nahant, Jan. 3, 1889), Arctic coast of Russia (Dolga Bay, Waigats; Pachtusoff Island), coast of Alaska (Point Barrow, Dec. 12; Ice Bay; St. Michaels) and coast of Kamchatka.^b

Colymbus grylle (not of Linnæus, 1758) PHIPPS, Voy. North Pole, 1774, 186 (Spitzbergen).

Uria grylle SWAINSON and RICHARDSON, Fauna Bor.-Am., ii, 1831, 478 (Tern Island, Arctic America).—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 523, part.—AUDUBON, Orn. Biog., iii, 1835, 148, part; v, 1839, 67, part; Synopsis, 1839, 350, part; Birds Am., 8vo ed., vii, 1844, 272, part.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 157, part.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 911, part; ed. 1860 ("Birds N. Am."), pl. 96, fig. 2; Proc. Ac. Nat. Sci. Phila., 1862, 323 (Herald Island).—BAIRD, Cat. N. Am. Birds, 1859, no. 726, part.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 68, part (monogr.); Check List, 1873, no. 631, part; 2d ed., 1882, no. 871, part.—BRANDT, Mélang. Biol., vii, 1869, 207, part.—FINSCH, Abh. Nat. Ver. Bremen, iii, 1872, 78 (Unalaska; Kamchatka).—FELDEN, Proc. Zool. Soc. Lond., 1877, 31 (North Polar Basin); Ibis, 1877, 410 (Smith Sound, north to 82° 33').—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 158, part (monogr.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 760), part; Nom. N. Am. Birds, 1881, no. 760, part.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 241 (breeding at Point du Monts, Quebec, and up St. Lawrence River to mouth of Saguenay River).—NEALE, Proc. Zool. Soc. Lond., 1882, 653 (Franz Josef Land).—NELSON, Cruise 'Corwin' in 1881 (1883), 117 (coasts and islands of Bering Sea; Herald Island; Wrangel Island; Bennett Island, breeding).—CLARKE (W. E.), Zoologist, 1890, 41 (Jan Mayen Land, crit.; habits, etc.); Ibis, 1899, 50 (Whale Point Harbor; King Ludwig Islands; breeding; Ryk-ys Islands; Olga Straits, e. Spitzbergen).

[*Uria grylle* COUES, Key N. Am. Birds, 1872, 345, part.

Uria grylle COUES, Key N. Am. Birds, 2d ed., 1884, 814, part.

Cepphus grylle NEWTON, Proc. Zool. Soc. Lond., 1864, 495 (Spitzbergen).

^a According to Ogilvie-Grant, Cat. Birds Brit. Mus., xxvi, 1896, 584, in synonymy.

^b Additional records are for the following localities: Melville Peninsula (Winter Island; Tern Island), Whalefish Island, Northumberland Island, Beechey Island, Cypress Island, Hudson Strait (July 25), White Strait (July 26), Godthaab, Greenland (Feb. 6), Holsteinborg, Greenland (July 19).

- Alca grylle* SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 19, part (Kamchatka).
- [?] *Grylle scapularis* LEACH, in Ross, Voy. N. W. Passage, 1819, App., p. li (Baffins Bay); in Thompson's Ann. Philos., xiii, 1819, 60.
- Uria scapularis* STEPHENS, Shaw's Gen. Zool., xii, pt. 2, 1824, 250, part.
- Uria mandtii* MANDT, Obs. Hist. Nat. Itin. Groenl., 1822, 30 (Spitzbergen; ex Lichtenstein, manuscript).—FABER, Isis, 1824, 980 (Greenland).—NAUMANN, Vög. Deutschl., xii, 1844, 462.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 604.—REINHARDT, Ibis, 1869, 240.—DRESSER, Birds Europe, viii, 1877, 587.—WALTER, Journ. für Orn., 1890, 238, 240 (e. Spitzbergen).—TACZANOWSKI, Mém. Ac. St. Petersb., xxxix, 1893, 1221 (e. Siberia).—TREVOR-BATTYE, Ibis, 1897, 598 (Spitzbergen; habits).
- Uria mandti* PEARSON, Ibis, 1896, 225 (Novaya Zemlya); 1898, 204 (Dolga Bay, Waigats; Nameless Bay, Novaya Zemlya; Pachtussoff Island).—CLARKE (W. E.), Ibis, 1898, 269 (Franz Josef Land, breeding; habits).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 584 (Fort George, "Brit. Columbia," i. e. Hudson Bay; Ice Bay and St. Michael, Alaska; Whalefish Island; Northumberland Island; Beechey Island; Cypress Island; Washington Irving Island, Smith Sound; Bache Island, Grinnell Land; Winter Island and Tern Island, Melville Peninsula; Fort Chimo, Ungava; Groswater Bay, Labrador; Godbout, Quebec; North Greenland, lat. 79° 82'; etc.).—DRESSER, Ibis, 1908, 513 (New Siberia).
- [*Uria*] *mandtii* LICHTENSTEIN, Verz. Doubl., 1823, 88 (Spitzbergen).—KEYSERLING and BLASIUS, Wirb. Eur., 1840, pp. xcii, 237.
- [*Uria*] *mandti* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52 (Melville Island; Point Barrow, Alaska).
- Uria grylle mandtii* SCHLEGEL, Rev. Crit., 1844, cvii.—STEJNEGER, Proc. U. S. Nat. Mus., vii, 1884, 71.—WALTER, Journ. für Orn., 1890, 249 (e. Spitzbergen).
- Uria grylle* . . . var. *mandtii* PALMÉN, 'Vega'-Exped., 1887, 385
- Uria grylle* var. *mandtii* WALTER, Journ. für Orn., 1890, 240, 243, 245, 247 (e. Spitzbergen)
- Cepphus mandti* NEWTON, Ibis, 1865, 517 (Spitzbergen; crit.).—HEUGLIN, Ibis, 1872, 64 (Novaya Zemlya; Waigats).—CHAPMAN, Bull. Am. Mus. N. H., xii, 1899, 220 (Holsteinborg, Greenland, 1 spec., July 19; White Straits, 3 specs., July 26; Hudson Strait, 1 spec., July 25).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, p. 30.—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 8 (Cape Kibera Island and Cape Irkaipij, e. Siberia, breeding).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 370 (80 miles s. of Wrangel Island, July 19).
- Cepphus mandti*? GILLET, Ibis, 1870, 307 (Novaya Zemlya).
- [*Cepphus*] *mandti* SHARPE, Hand-list, i, 1899, 131.
- Cepphus mandtii* HEUGLIN, Journ. für Orn., 1871, 105 (n. Europe); 1872, 124 (Arctic Europe).—STEGNEGER, Proc. U. S. Nat. Mus., vii, 1884, 223 (range), 227 (synonymy); Bull. U. S. Nat. Mus., no. 29, 1885, 314 (Kamchatka).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 490.—TURNER, Proc. U. S. Nat. Mus., viii, 1885, 254 (Hudson Straits, Fort George, etc., breeding); Contr. N. H. Alaska, 1886, 121 (St. Michael, Alaska, 2 specs., Feb., March).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 28.—NELSON, Rep. Nat. Hist. Coll. Alaska, 1887, 44 (Arctic and Bering Sea coasts).—THOMPSON, Proc. U. S. Nat. Mus., xiii, 1890, 468 (Severn House, Keewatin).—STONE, Proc. Ac. Nat. Sci. Phila., 1892, 145 (Melville and McCormick Bays; crit.; descr. downy young).—SCHALOW,

Vögel der Arktis, 1904, 124 (synonymy, range, etc.).—ENFRIC, Auk, xii, 1905, 235 (Hudson Bay northward; North Devon; Cape Fullerton; food; descr. eggs).

[*Cephus*] *mandtii* RIDGWAY, Man. N. Am. Birds, 1887, 16.

Grylle mandtii FRITSCH, Nat. Vög. Eur., 1870, 496; Atlas, 1871, pl. 59, fig. 4.

[?] *Uria meisneri* BREHM, Lehrb. Eur. Vög., pt. ii, 1824, 1006 (Greenland).

[?] *Cephus meisneri* BREHM, Handb. Vög. Deutschl., 1831, 989.

Uria glacialis BREHM, Handb. Vög. Deutschl., 1831, 991 (Arctic Europe).

Uria grylle, var. *glacialis* SUNDEVALL, Vög. Scand., Atlas, livr. iv, 1847, pl. —.

Uria grylle v. *glacialis* MALMGREN, Journ. für Orn., 1865, 261 (Spitzbergen).

[*Cephus*] [*grylle*] *mandtii* HANTZSCH, Journ. für Orn., Jan., 1908, 143, 144, in text.

Cephus grylle mandtii HANTZSCH, Journ. für Orn., July, 1908, 311 (Labrador; crit.)

CEPPHUS COLUMBA Pallas.

PIGEON GUILLEMOT.

Similar to *C. grylle*, but under wing-coverts brownish gray instead of pure white, white wing-patch divided below by a broad wedge-shaped bar of black, rectrices 14, instead of 12, and size larger.

Adults in breeding plumage (sexes alike).—General color plain fuscous-black, the tips of scapulars and interscapulars more slaty, the rump and upper tail-coverts uniformly more slaty (between dark mouse gray and iron gray), the under parts and anterior portion of head more sooty (between clove brown and bone brown); posterior lesser wing-coverts, middle coverts, and tips of greater coverts white, the white tips to the last becoming gradually broader on proximal coverts until from about the middle of the series the black is quite concealed and the white blends with that of the middle and lesser coverts, which also are dusky beneath the surface; axillars and under wing-coverts brownish gray, paler toward edge of the wing, the innermost post-carpal coverts mostly dull white, the third series from secondaries broadly tipped with dull white; bill black; interior of mouth vermilion red; iris dark brown; legs and feet vermilion red, claws black.

Winter plumage.—Wings and tail as in summer; rest of plumage pure white, the pileum, back, scapulars, and upper part of rump with feathers blackish for concealed and part of exposed portions; legs and feet paler red.

Young.—Similar to the winter plumage, but white of wing-coverts tipped with dusky, secondaries and primaries with terminal spots of white, rump and under parts indistinctly barred with dusky, and pileum with less of black. (Readily distinguishable from young of *C. grylle* and *C. mandtii* by the brownish gray, instead of pure white axillars and under wing-coverts.)

Downy young.—Plain dark sooty grayish brown, darker on anterior portion of head, paler and more grayish on abdomen.

Adult male.—Wing, 161–180 (173.6); tail, 46–52 (49.3); exposed culmen, 30–33.5 (31.7); tarsus, 31–34.5 (32.5); middle toe, 36.5–42.5 (39.3).^a

Adult female.—Wing, 166–181 (177.5); tail, 44.5–49.5 (47.3); exposed culmen, 29.5–34.5 (32.8); tarsus, 32–35 (33.1); middle toe, 37.5–42 (39.9).^b

Coasts and islands of Bering Sea, adjacent portion of Arctic Ocean (mainland east of Koliutschin Bay, Siberia; Wrangel Island; Herald Island), southward along Pacific coast of North America to southern California (Santa Barbara Islands, resident and breeding), and on Asiatic side to coast of Kamchatka (Commander Islands, breeding);^c southward in winter to Lower California (Point Sandoval; San Nicolás Island).

[*Uria grylle*] β LATHAM, Index Orn., ii, 1790, 797 (Unalaska Island, Alaska).

[*Uria grylle*] E LATHAM, Index Orn., ii, 1790, 798 (Kamchatka).

Cepphus columba PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 348, part (Kamchatka and Bering Straits).—NEWTON, Ibis, 1865, 519 (Spitzbergen).—STEJNEGER, Proc. U. S. Nat. Mus., vii, 1884, 229 (crit., synonymy, etc.); x, 1887, 118 (Commander Islands); Bull. U. S. Nat. Mus., no. 29, 1885, 21 (Commander Islands; habits, etc.).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 494.—TURNER, Auk, ii, 1885, 159 (Attu Island, Aleutian chain, breeding); Contr. N. H. Alaska, 1886, 121 (St. Michael; Cape Newenham; Aleutian Islands; etc.; habits).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 29; 3d ed., 1910, p. 31.—EVERMANN, Auk, iii, 1886, 88 (Santa Barbara Islands, California, breeding).—NELSON, Rep. N. H. Coll. Alaska, 1887, 44 (Sitka; Kodiak; Shumagins; Aleutians; etc.; habits).—TOWNSEND, Cruise 'Corwin' in 1885 (1887), 98 (Unalaska).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., i, 1888, 30 (Farallon Islands, breeding;

^a Eleven specimens.

^b Fourteen specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Tarsus.	Middle toe.
MALES.					
One adult male from California.....	177.5	50	33.5	33.5	42.5
Two adult males from Washington.....	173.2	50.5	31	32.5	36.5
Six adult males from Alaska (Aleutian and Shumagin Islands).....	171.3	47.8	32.1	32.1	39.4
Two adult males from Siberia (Emma Harbor).....	179	52.2	30.2	33.2	40
FEMALES.					
Three adult females from California.....	177.7	47.8	33.7	33.8	39.8
Three adult females from Washington.....	170.7	45.5	33.3	33.7	39.7
Four adult females from Alaska (Aleutian and Shumagin Islands).....	174.4	48.5	33.5	33.2	40
Four adult females from Siberia (Emma Harbor).....	178	47.1	31	32.1	39.9

^c The A. O. U. Check List (third edition, 1910) includes northern Japan in the Asiatic range of the species; but citations of *C. columba* from all localities south of Kamchatka apparently all belong to *C. snowi* (see p. 733).

habits; descr. nest and eggs).—TACZANOWSKI, Mém. Ac. St. Petersb., xxxii, 1893, 1222 (e. Siberia).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., vi, 1896, 19 (California).—GRINNELL, Auk, xv, 1898, 124 (Sitka); Pub. 1, Padasena Ac. Sci., 1897, 23 (Santa Barbara Islands, California, breeding; habits); Pub. 2, 1898, 6 (Santa Barbara Islands, resident); Pacific Coast Avif., no. 11, 1915, 19 (breeding from Point Reyes to Santa Barbara Islands).—SCALE, Proc. Ac. Nat. Sci. Phila., 1898, 129 (Kings Island, Alaska).—PALMER (W.), Avif. Pribilof Islands, 1899, 389 (rare, possibly breeding).—RAY, Auk, xxi, 1904, 430 (Farallon Islands; habits, etc.).—LINTON, Condor, x, 1908, 125 (Santa Cruz Island, California; breeding?).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 33 (Unalaska, Agattu, and Attu islands, Aleutians; new Bogoslov Island; Commander Islands; etc.).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 9 (Arctic coast of Siberia east of Koliutichin Bay; Diomed Island, June 4).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lii, 1915, 370 (Bering Sea; Copper Island; Cape Shipunski and East Cape, Siberia).

[*Cephus*] *columba* RIDGWAY, Man. N. Am. Birds, 1887, 17.

Uria columba KEYSERLING and BLASIUS, Wirb. Eur., 1840, p. xcii.—CARST, Rep. U. S. Expl. Exped. (Wilkes), Orn., 1858, 346, pl. 38, fig. 1; in Baird, Rep. Pacific R. R. Surv., ix, 1858, 912; ed. 1860 (Birds N. Am.), Atlas, pl. 96, fig. 1; Proc. Ac. Nat. Sci. Phila., 1862, 323 (Bering Straits).—BAIRD, Cat. N. Am. Birds, 1859, no. 727.—HEERMANN, Rep. Pacific R. R. Surv., x, pt. iv, no. 2, 1859, 76 (Farallon Islands).—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 285 (Puget Sound; habits).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 72, fig. 14 (monogr.); Check List, 1873, no. 632; 2d ed., 1882, no. 872.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Sitka; Kodiak).—BRANDT, Mélang. Biol., vii, 1869, 207.—FINSCH, Abh. Nat. Ver. Bremen, iii, 1872, 78 (Alexandrovsk, e. Siberia).—DALL, Proc. Calif. Ac. Sci., v, 1873, 35 (Shumagina, breeding); v, 1874, 29 (Attu Is. to the Shumagins).—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 159 (monogr.).—TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 51 (Kamchatka); vi, 1883, 398 (Bering Island).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 172 (Sitka).—NELSON, Cruise 'Corwin,' in 1881 (1883), 117 (Aleutian Islands to Wrangel and Herald islands; Diomed Islands; Cape Serdze, Kamchatka and East Cape, n. e. Siberia).—HARTLAUB, Journ. für Orn., 1883, 285 (Portage Bay, Alaska).—STEJNEGER, Proc. U. S. Nat. Mus., vii, 1884, 225 (geogr. range).—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. France, ix, 1884, 147.—PALMÉN, Vega-Exped., v, 1887, 391 (Port Clarence, Kodiak, Sitka, etc., Alaska).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 586.

[*Uria*] *columba* GRAY, Hand-list, iii, 1871, 101, no. 10818.—COUES, Key N. Am. Birds, 1872, 345.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 70, part (North Pacific).—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52 (Alaska; Kamchatka).

[*Uria*] *columba* COUES, Key N. Am. Birds, 2d ed., 1884, 815.

[*Pseuduria*] *columba* SHARPE, Hand-list, i, 1899, 131.

Uria grylle (not *Alca grylle* Linnaeus) KRTTLITZ, Isis, 1832, 1105; Denkw. Reise, i, 1858, 273, 291; ii, 1858, 221.

CEPPHUS MOTZFELDI (Benicken).

BLACK-WINGED GUILLEMOT.

Similar to *C. carbo*, but without any white or pale gray on side of head.

Adult in summer.—Entire plumage, including whole of wing-coverts, plain dark sooty brown or fuscous, the abdomen somewhat

more grayish; "bill black, very compressed, with prominent gonydeal protuberance, bent tip, and feathered as far as above nostrils;" legs and feet yellowish brown in dried skins (probably vermilion red in life); exposed culmen, 42; commissure, 54; bill from anterior end of nasal fossa, 24; tarsus, 36.^a

Greenland; Iceland; Cumberland Gulf.

Uria motzfeldi BENICKEN, *Isis*, Aug., 1824, 889 (Greenland).

Cepphus motzfeldi STEJNEGER, *Proc. U. S. Nat. Mus.*, vi, Aug. 5, 1884, 210, 227, 229 (crit.).—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 497.—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, 349 (Hypothetical List, no. 2); 2d ed., 1895, 325 (Hypothetical List, no. 2); 3d ed., 1910, 369.

[*Cepphus*] *motzfeldi* RIDGWAY, *Man. N. Am. Birds*, 1887, 17.

Alca mansfeldi SEEBOHM, *Birds Japanese Emp.*, 1890, 276, in text (Greenland).

Uria unicolor FABER, *Isis*, Sept., 1824, 981 (Iceland).—BRHM, *Isis*, 1826, 988 (Greenland); *Handb. Vög. Deutschl.*, 1831, 985.—SCHINZ, *Eur. Faun.*, i, 1840, 360.—SCHLEGEL, *Rev. Crit.*, 1844, 106.—BONAPARTE, *Cat. Parzudaki*, 1856, 12.

[*Uria*] *unicolor* BONAPARTE, *Compt. Rend.*, xlii, 1856, 774.

Grylle carbo (not *Cepphus carbo* Pallas, 1826) BONAPARTE, *Cat. Met. Ucc. Eur.*, 1842, 82.

Cepphus carbo NEWTON, *Ibis*, 1865, 518, part (Iceland).

Alca grylle (not *Colymbus grylle* Linnæus) SCHLEGEL, *Mus. Pays-Bas*, vi, no. 33 (Urinatores), 1867, 20, part.

Uria grylle KUMLIEN, *Bull. U. S. Nat. Mus.*, no. 15, 1879, 104, part (Cumberland Gulf).

CEPPHUS CARBO Pallas.

SPECTACLED GUILLEMOT.

Adult in breeding plumage.—"Bill long and stout, much more robust than in *U. [i. e. C.] columba*. General color deep slaty black, somewhat paler on the underparts and inclining to brown on the shoulders, under wing-coverts, and axillaries; *orbital region white*, extended posteriorly toward the ear-coverts; feathers above the nasal opening and on the chin and throat inclining to whitish. Tail composed of 14 feathers. Total length about 14.5 inches [= 368.3 mm.], culmen from feathers on forehead to tip 1.65 [= 41.9 mm.], from gape to tip 2.15–2.2 [54.6–55.9], greatest depth of both mandibles at base 0.5 [12.7 mm.], wing 7–7.6 [177.8–179.3], tail 1.85–2.1 [47–53.3 mm.],

^a Measurements reduced from inches and lines (Hamburg measure) to millimeters, by Dr. Stejneger. It is clear, from the measurements given, that this little-known bird can not be a phase of *U. grylle*, as so many have conjectured. The measurements are all much too large, and correspond closely with those of *C. carbo*. Someone having the opportunity should examine and carefully describe the type, if it can be found, and the specimens (presumed to be the same species) in the Leyden and British Museums; at the same time ascertaining whether they possess 12 or 14 rectrices, and thereby determining whether more nearly related to *C. grylle* or *C. carbo*. For a complete history of this bird see Stejneger, *Proc. U. S. Nat. Mus.*, vii, 1884, 210–216.

tarsus 1.4–1.5 [35.6–38.1 mm.], middle toe and claw 1.9–2.1 [48.3–53.3 mm.].”^a

“*Adult in nonbreeding plumage*.—Chin, throat, foreneck, and under parts white, inner web of flank feathers gray.

“*Immature* (February).—Resembles the adult in winter plumage, but the foreneck is grayish and the feathers of the sides, flanks, and belly are mostly fringed at the extremity with dark brown.

“*Quite young bird* (August).—Has the upper parts as in the adult, the white ring around the eye nearly obsolete, the foreneck, chest, sides, and flanks dark smoky-black, and the rest of the under parts white, widely fringed with brownish-black.”

Coasts and islands of northeastern Siberia (Olga Bay; Usuri; Abrek Bay; Cape Shipunski; coast of Taiganose Peninsula, south of Chaibook Point, breeding), Kamchatka (Bering Island, April 28, 1883, four specimens), and northern Japan (Sakhalin Island; Bay of Sendai, eastern coast of Hondo; Yezo; Hakodate; Uraga, near Yokohama; Kuril Islands?); Sea of Okotsk?; Unalaska Island, Alaska???

Cephus carbo PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 350, pl. 79 (“especially abundant in the caves around Unalaska, wherefrom I have received numerous specimens”).^b—REICHENBACH, Natatores, 1850, pl. 111, figs. 2937–2939.—NEWTON, Ibis, 1885, 519 (crit.).—STEJNEGER, Proc. U. S. Nat. Mus., vii, 1884, 225, 226, 227, 229 (geographic range; synonymy); x, 1887, 118 (Bering Island; Bull. U. S. Nat. Mus., no. 29, 1885, 22 (Bering Island; 4 spec., April 28, 1883).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 496.—AMERICAN ORNITHOLOGISTS’ UNION, Check List, 1886, 350 (hypothetical list, no. 3); 2d ed., 1895, 326.—GIGLIOLI and SALVADORI, Proc. Zool. Soc. Lond., 1887, 593 (Olga Bay, e. Siberia; crit.).—TACZANOWSKI, Mém. Ac. St. Petersb., xxxix, 1893, 1224 (e. Siberia).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 224 (coast Taiganose Peninsula, south of Chaibook Point, n. e. Siberia, breeding).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 33 (Sakhalin Island, Japan).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 370 (Cape Shipunski, Siberia, May 21, 1913).

[*Cephus*] *carbo* RIDGWAY, Man. N. Am. Birds, 1887, 17.

Uria carbo BRANDT, Bull. Ac. Sci. St. Petersb., ii, 1837, 346; Mélang. Biol., vii, 1869, 206.—GOULD, Birds Asia, vii, 1851, pl. 71 and text.—MIDDENDORFF, Sibir. Reise, ii, pt. 2, 1853, 239, pl. 23, fig. 6.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 913; ed. 1860 (“Birds N. Am.”), atlas, pl. 97; Proc. Ac. Nat. Sci. Phila., 1862, 323 (Bay of Sendai, e. coast Hondo, Japan).—SCHRENCK, Reis. Amur-land, i, 1860, 496, pl. 16, fig. 1 (egg).—BAIRD, Cat. N. Am. Birds, 1859, no. 728.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 73, fig. 15 (monogr.); Check List, 1873, no. 633; 2d ed., 1882, no. 873.—HOMER, Journ. für Orn., 1870, 435 (Okotsk Sea).—SWINHOE, Ibis, 1875, 458 (Hakodate, Japan).—TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri, e. Siberia); Orn. Faun. Vost. Sibir., 1877, 73; Bull. Soc. Zool. France, 1877, 51 (Abrek

^a Not having seen a specimen of this species (except a head, only, in the U. S. National Museum collection), I quote the above descriptions from Grant, Cat. Birds Brit. Mus., xxvi, 1898, 598.

^b Translation. See Stejneger, Proc. U. S. Nat. Mus., vii, 1884, 226, where probable error in statement of locality is explained.

- Bay).—BLAKISTON and PRYER, Ibis, 1878, 211 (Yezo, Japan); Trans. Asiat. Soc. Japan, x, 1882, 90 (Yezo, Japan).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 762); Nom. N. Am. Birds, 1881, no. 762.—BLAKISTON, Amend. List Birds Japan, 1884, 32.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 588 (Hakodate and Uraga, Hondo, Japan).
- [*Uria*] *carbo* GRAY, Hand-list, iii, 1871, 101, no. 10819.—COUES, Key N. Am. Birds, 1872, 345.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52.
- [*Uria*] *carbo* GRAY, Gen. Birds, iii, 1848, 645.—COUES, Key N. Am. Birds, 2d ed., 1884, 815.
- Alca carbo* SCHLEGEL, Mus. Pays-Bas, vi, no. 33, Urinatores, 1867, 17.—SEEBOHM, Birds Japanese Emp., 1890, 274 (Hakodate; Uraga, near Yokohama).
- [*Pseuduria*] *carbo* SHARPE, Hand-list, i, 1899, 131.

Genus BRACHYRAMPHUS Brandt.

- Brachyrampus* BRANDT, Bull. Sci. Acad. Imp. St. Petersb., ii, 1837, 346. (Type, as designated by Gray, 1840, *Colymbus marmoratus* Gmelin.)
- Brachyrampus* (emendation) BRANDT, Isis, 1837, 502.
- Apobapton* BRANDT, Bull. Sci. Acad. Imp. St. Petersb., ii, 1837, 346. (Type, *Colymbus marmoratus* Gmelin.)
- Anobapton* (emendation) BONAPARTE, Compt. Rend., xlii, 1856, 774.

Small Alcidae (wing 112–143 mm.) with bill small and narrow, the exposed culmen not longer (usually shorter) than tarsus; nostril broadly oval, pyriform or triangular, near anterior end of the mostly feathered nasal fossa, tarsus much shorter than middle toe without claw, reticulate in front, and with 14 rectrices.

Bill small and narrow, the exposed culmen never longer (usually shorter) than tarsus, its greatest depth little if any more (usually much less than) half the length of exposed culmen, and decidedly greater than its width at latero-frontal antiæ; culmen regularly (sometimes rather strongly) convex from near base; gonys decidedly to much shorter than distance from anterior end of nasal fossa to tip of maxilla, nearly straight, ascending terminally, its basal angle more or less prominent; maxillary tomium faintly convex proximally, faintly concave distally, distinctly notched subterminally; mandibular tomium nearly straight, distinctly notched near tip; nostril broadly oval, pyriform or triangular, in anterior portion of nasal fossa, in contact posteriorly and for posterior half of upper margin with loreal or latero-frontal feathering, the latter very slightly if at all divided or indented at base of culmen; mandibular ramus mostly if not wholly feathered except along upper margin. Wing small, with longest primary (outermost) equal to slightly more than half the length of wing. Tail about one-fourth as long as wing (or very slightly more), slightly rounded, the rectrices relatively broad, 14 in number. Tarsus much shorter than middle toe without claw (only as long as first two phalanges of middle toe, or even slightly shorter), the acrotarsium reticulate; outer toe

(without claw) as long as middle toe, the inner about as long as first two phalanges of middle toe.

Plumage and coloration.—No ornamental plumes on head. In breeding plumage, upper parts (except wings and tail dusky, everywhere barred, spotted, or streaked with buff or rusty, the under parts barred or mottled with white and dusky; in winter, upper parts without buff or rusty, the under parts and collar round hind-neck immaculate white; young much like winter plumage but under parts transversely mottled with dusky and white collar less distinct.

Range.—Coasts and islands of northern Pacific Ocean, south in winter to California and Japan. (Three species.)

KEY TO THE SPECIES OF BRACHYRAMPHUS.

- a. Exposed culmen as long as or longer than tarsus; secondaries and lateral rectrices wholly dusky; summer adults with upper parts barred or transversely spotted with buff or rusty.
- b. Exposed culmen not longer than tarsus; summer adults with back, scapular, rump, and upper tail-coverts barred with rusty, and under parts with sooty brown predominating; wing 112–129; exposed culmen, 13.5–16.5. (Pacific coast of North America, from Unalaska to southern California.)

Brachyramphus marmoratus (p. 746).

- bb. Exposed culmen decidedly longer than tarsus; summer adults with pileum, hindneck, back, scapulars, rump, and upper tail-coverts barred or transversely spotted with buff, and under parts with white predominating (except posteriorly); wing, 134–143; exposed culmen, 18.5–21.5. (Japan to Sea of Okotsk and coast of Kamchatka.).....*Brachyramphus perdix* (extralimital).^c
- aa. Exposed culmen much shorter than tarsus; secondaries (especially inner webs) tipped with white and lateral rectrices mostly white; summer adults with upper parts streaked or longitudinally spotted with buff. (Glacier Bay, Alaska through Aleutian Islands, to northern Japan.)

Brachyramphus brevirostris (p. 749).

BRACHYRAMPHUS MARMORATUS (Gmelin).

MARbled MURRELET.

Adults in breeding plumage (sexes alike).—Upper parts dark sooty brown (dark fuscous), the interscapulars, scapulars, feathers of rump, and upper tail-coverts tipped with deep rusty (sage brown to verona brown), producing broad bars; ^b under parts with feathers

^a *Cephus perdix* Pallas, Zoogr. Rosso-Asiat., ii, 1826, 351, pl. 80 (Sea of Okotsk).—*Brachyramphus perdix* Stejneger, Zeitschr. Ges. Orn., iii, 1886, 213, pl. 7 (Kamchatka: crit.); Proc. U. S. Nat. Mus., xxi, 1898, 278 (Kuril Islands).—*Brachyramphus perdix* Grant, Cat. Birds Brit. Mus., xxvi, 1898, 592 (Hakodate; Kuril Islands).—*Brachyramphus kittlitzii* Swinhoe, Ibis, 1875, 458 (Hakodate, Japan; crit.); Seebohm, Ibis, 1894, 174 (Hakodate; crit.); Blakiston and Pryer, Ibis, 1878, 210 (Hakodate).—*Brachyramphus wrangeli* (not of Brandt) Seebohm, Ibis, 1884, 31 (Hakodate; crit.).—(?) *Brachyramphus marmoratus* (not of Brandt?) Nelson, Cruise 'Corwin' in 1881 (1883), 116, part (Siberian coast Bering Sea).

^b In midsummer, owing to abrasion of the feathers, the rusty tips disappear and the upper parts thus become nearly uniformly dusky.

mostly white, but broadly margined terminally with fuscous, sometimes so broadly as to reduce the white to an irregular spotting, the chest, sides, and flanks sometimes nearly uniform fuscous; axillars and under wing-coverts uniform fuscous; bill black; iris dark brown; legs and feet pale brownish (flesh color in life).

Winter plumage.—Upper parts dusky (dark fuscous), interrupted by a nuchal band of white, the interscapulars, rump feathers, and upper tail-coverts tipped with gray; scapulars mostly white, especially the inner ones; entire under parts, including malar, auricular, and suborbital regions and lower half of loreal region, immaculate white, the sides and flanks more or less striped with dusky grayish; axillars and under wing-coverts uniform fuscous, as in summer.

Young.—Above uniform dusky (fuscous-blackish), the nape somewhat intermixed with white; white scapular patch less distinct than in winter adults; lores almost wholly dusky; under parts white, nearly everywhere, but more especially on chest, breast, and sides, transversely mottled with dusky or fuscous; bill smaller and weaker than in adults.

Adult male.—Wing, 121.5–129 (126.1); tail, 29–35 (31.3); exposed culmen, 13.5–16.5 (15.1); tarsus, 15.5–16.5 (15.9); middle toe, 23–25.5 (24.3).^a

Adult female.—Wing, 112–127 (121.7); tail, 28–33 (30.5); exposed culmen, 15–16 (15.4); tarsus, 15–16 (15.5); middle toe, 22–24 (23).^b

Pacific coast of North America; breeding from Vancouver Island, Queen Charlotte Islands, etc., British Columbia to Kodiak and Unalaska islands, Alaska; southward in winter as far as San Diego Bay, southern California.

[*Colymbus*] *marmoratus* GMELIN, Syst. Nat., i, pt. ii, 1789, 583 (Prince William Sound, Alaska).

[*Uria*] *marmorata* LATHAM, Index Orn., ii, 1790, 799.

^a Ten specimens.

^b Six specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Seven adult males from Alaska.....	125.8	30.8	14.6	15.8	24.1
One adult male from Vancouver Island.....	129	35	16	16.5	25
Two adult males from Washington.....	126	31.5	16.2	16.2	24.5
FEMALES.					
Four adult females from Alaska.....	120.6	30.5	15.4	15.5	23.5
Two adult females from Washington.....	123.7	30.5	15.5	15.7	23.7

- Uria marmorata* BONNATERRE, Tabl. Enc. Méth., i, 1790, 37, pl. 9, fig. 4.—STEVENS, Shaw's Gen. Zool., xii, pt. 2, 1824, 249.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 423.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 525.—KITTLITZ, Denkw. Reise, i, 1858, 244 (Sitka).
- Brachyramphus marmoratus* BRANDT, Bull. Ac. St. Petersb., ii, 1837, 346; Mélang. Biol., vii, 1869, 208.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 915.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 286 (Puget Sound and Shoalwater Bay, Washington).—PELZELN, Ibis, 1873, 46 (descr. immature bird).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 755).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 171 (Sitka).—HARTLAUB, Journ. für Orn., 1883, 285 (Dejähshänke, Alaska).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 499.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 23; 3d ed., 1910, p. 29.—NELSON, Rep. N. H. Coll., Alaska, 1887, 44 (Sitka; Aleutian Islands).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., vi, 1896, 19 (coast California).—CANTWELL, Auk, xv, 1898, 49 (Long Island. Prince of Wales Archipelago, breeding).—RALPH, Auk, xv, 1898, 49 (descr. eggs).—GRINNELL, Auk, xv, 1898, 124 (Sitka, Alaska, breeding); Pacific Coast Avif., no. 11, 1915, 19 (winter resident south to Monterey Bay).—CHAPMAN, Bull. Am. Mus. N. H., xvi, 1902, 231 (Homer, Cook Inlet, Alaska; breeding on islands in Katchimak Bay).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 32 (Puget Sound to Unalaska).—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 59 (Monterey Bay, California, end of July to March).—BOWLES, Auk, xxviii, 1911, 169 (Puget Sound, resident).—GRINNELL (J.), Pacific Coast Avif., no. 11, 1915, 19 (winter resident south to Monterey Bay).
- [*Brachyramphus*] *marmoratus* GRAY, Hand-list, iii, 1871, 100, no. 10809.
- B[achyramphus] marmoratus* RIDGWAY, Man. N. Am. Birds, 1887, 15.
- B[achyrhamphus] marmoratus* GRAY, Gen. Birds, iii, 1848, 644.—COUES, Key N. Am. Birds, 2d ed., 1884, 813.
- Brachyrhamphus marmoratus* REICHENBACH, Natatores, 1850, pl. 6, figs. 2715–2720.—SCLATER, Proc. Zool. Soc. Lond., 1859, 237 (Vancouver Island).—BAIRD, Cat. N. Am. Birds, 1859, no. 732.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 61 (monogr.); Check List, 1873, no. 629; 2d ed., 1882, no. 866.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Sitka).—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 157 (monogr.).—RIDGWAY, Nom. N. Am. Birds, 1881, no. 755.—NELSON, Cruise "Corwin" in 1881 (1883), 116, part (Aleutian Islands).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 590 (Unalaska Island; Kodiak Island; Vancouver Island; Puget Sound; Columbia River).
- [*Brachyrhamphus*] *marmoratus* COUES, Key N. Am. Birds, 1872, 344.—SHARPE, Hand-list, i, 1899, 131.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52 ("Hudson's Bay;" Queen Charlotte Islands).
- Anobapton marmorata* LICHTENSTEIN, Nomencl. Av. Mus. Berol., 1854, 105.
- Brachyrhamphus wrangeli* BRANDT, Bull. Ac. St. Petersb., ii, 1837, 346 (Aleutian Islands; coll. Mus. Imp. Acad. Sci. St. Petersb.).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 917.
- Brachyrhamphus wrangeli* BAIRD, in Rep. Stansbury's Survey Great Salt Lake, 1852, 335 (Aleutian Islands).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 63 (monogr.).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 310 (Sitka).
- [*Brachyrhamphus*] *wrangeli* GRAY, Gen. Birds, iii, 1848, 644.
- Brachyrhamphus wrangeli* BAIRD, Cat. N. Am. Birds, 1859, no. 733.
- Brachyrhamphus wrangeli* DALL, Proc. Calif. Ac. Sci., v, 1873, 35 (Aleutian Islands).

Uria townsendi AUDUBON, Birds Am., fol. ed., 1838, pl. 430; Orn. Biog., v, 1839, 251 (near mouth Columbia River).—TOWNSEND (J. K.), Narrative, 1839, 352.

Uria townsendii AUDUBON, Synopsis, 1839, 351; Birds Am., 8vo. ed., vii, 1844, 278, pl. 475.

BRACHYRAMPHUS BREVIROSTRIS (Vigers).

KITTLITZ'S MURRELET.

Adults in breeding plumage (sexes alike).—Predominant color of upper parts dusky (varying from nearly black to nearly dark gull gray according to angle of view), the surface glossy and this dusky color broken everywhere (except on wings and tail) by irregular streaks or longitudinal spots of light buff, these broadest on scapulars, rump, and upper tail-coverts, the nape with buff predominating; wings grayish dusky, the middle and greater coverts and secondaries narrowly margined terminally with pale gray or grayish white (the distal coverts also narrowly edged with the same), the inner webs of secondaries broadly tipped with white; middle rectrices, narrowly tipped with white, the outermost rectrix white with a dusky shaft-streak on distal portion, the next two (on each side) similar but with the dusky distal streak broader, the fourth (from outside) with inner web white, the fifth and sixth with inner web mostly white; loreal, suborbital, auricular, and malar regions, chin, throat, and upper foreneck light buff, narrowly and sparsely streaked with blackish; rest of under parts white, the lower foreneck, upper chest, and sides of lower neck, thickly marked with U-shaped bars of blackish, the sides and flanks similarly but more irregularly marked (the markings on outer portion assuming the form of irregular spots), the lower chest, breast, and abdomen with much fewer and narrower irregular bars of dusky, the anal region and under tail-coverts nearly immaculate; axillars and under wing-coverts uniform deep brownish gray (nearly hair brown); bill, black; iris, dark brown; legs and feet, pale brownish in dried skins, the webs, dusky.

Winter plumage.—Pileum, crescentic bar immediately in front of eye, a broad bar across sides of upper chest (the two of opposite sides nearly meeting in front), and upper parts generally, deep slate-gray, with a silky gloss, the feathers of back and rump narrowly tipped with white, many of them showing a darker slate color beneath surface; scapulars mostly white, with slate-gray predominating on outer webs; entire under parts, and all of head and neck, except as described (including a collar across nape), immaculate white; wings and tail as in summer.

Adult male.—Wing, 129–141 (135); tail, 31.5–34 (32.7); exposed culmen, 9.5–10.5 (10); tarsus, 15.5–16.5 (16); middle toe, 21.5–24 (22.7).^a

^a Two specimens, from Alaska.

Adult female.—Wing, 127; tail, 29; exposed culmen, 10.5; tarsus, 15.5; middle toe, 23.^a

Coasts and islands of Alaska, from Sitka, and Glacier Bay to Cook Inlet (off Homer, Aug. 3) and Unalaska Island; coast of north-eastern Siberia (westward along Arctic coast to Cape Yakan) and Kamchatka (Petropaulski), southward in winter to northern Japan (Hakodate).

Uria brevirostris VIGORS, Zool. Journ., iv, 1828, 357 ("San Blas, Mexico," i. e., Tepic^b; type now in coll. Brit. Mus.); Zool. Voy. 'Blossom,' Birds, 1839, 32.

Brachyrhamphus brevirostris STEJNEGER, Zeitschr. ges. Orn., iii, 1886, 211 (crit.); Proc. U. S. Nat. Mus., xxi, 1898, 273 (Kuril Islands).—CHAPMAN, Bull. Am. Mus. N. H., xx, 1904, 399 (Cook Inlet, off Homer, Alaska, Aug. 3).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 357; Check List, 3d ed., 1910, p. 29.—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 8 (Arctic coast e. Siberia, west to Cape Yakan).

B [rachyrhamphus] brevirostris RIDGWAY, Man. N. Am. Birds, 1887, 15.

Brachyrhamphus brevirostris BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 499, footnote.—SALVIN and GODMAN, Biol. Centr.-Am., Aves, iii, 1903, 446 ("San Blas, Tepic").—GRANT, Cat. Birds Brit. Mus., xvi, 1898, 593 ("San Blas, Tepic;" Kamchatka).

Alca brevirostris SEEBOHM, Birds Japanese Emp., 1890, 279.

Brachyrhamphus kittlitzii BRANDT, Bull. Ac. St. Petersb., ii, 1837, 346 (Petropaulski, Kamchatka); Mélang. Biol., vii, 1869, 215 (Petropaulski).—CASEY, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 917.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 501.—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 314 (Petropaulski, Kamchatka).

Brachyrhamphus kittlitzii TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri e. Siberia).—BLAKISTON and PRYER, Ibis, 1878, 210 (Hakodate, Japan).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1886, no. 24.—TURNER, Contr. N. H. Alaska, 1886, 120, pl. 2 (Unalaska; winter plumage described and figured).—NELSON, Rep. N. H. Coll. Alaska, 1887, 44, pl. 1 (Unalaska Harbor; summer plumage described and figured).

B [rachyrhamphus] kittlitzii RIDGWAY, Man. N. Am. Birds, 1887, 15.

B [rachyrhamphus] kittlitzii GRAY, Gen. Birds, iii, 1848, 644.

Brachyrhamphus kittlitzii BAIRD, Cat. N. Am. Birds, 1859, no. 735.—COUES, Check List, 1873, no. 630.—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 159 (monogr.).

[Brachyrhamphus] kittlitzii COUES, Key N. Am. Birds, 1872, 344.

Brachyrhamphus kittlitzii RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 756); Nom. N. Am. Birds, 1881, no. 756.—COUES, Check List, 2d ed., 1882, no. 867. NELSON, Cruise 'Corwin' in 1881 (1883), 117 (Unalaska).—PALMÉN, 'Vega'-Exped., 1887, 393 (Sitka, Alaska; Pitselkai e. Siberia; crit.).

Uria antiqua (not *Alca antiqua* Gmelin) AUDUBON, Orn. Biog., v, 1839, 100, pl. 402, fig. 2; Birds Am., 8^{vo} ed., vii, 1844, 263, part, pl. 470, fig. 2 (supposed young).

[Brachyrhamphus] antiquus REICHENBACH, Natatores, 1850, pl. 6, fig. 2713.

^a One specimen, from Alaska.

^b Almost certainly an error; probably some part of northern Pacific Ocean.

Genus ENDOMYCHURA Oberholser.

Micruria ^a (not of Reitter, 1875) GRANT (O.), Cat. Birds Brit. Mus., xxvi, 1898, 594. (Type, by original designation, *Brachyrhamphus hypoleucus* Xantus or *Uria craveri* Salvadori.)

Endomychura ^b OBERHOLSER, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 201. (New name to replace *Micruria* Grant, preoccupied.)

Small Phalerinæ (wing 113–128 mm.) with small and slender bill, resembling *Brachyrhamphus*, but with tarsus decidedly longer than middle toe without claw, instead of much shorter, rectrices only 12, instead of 14, and without distinctive breeding plumage.

Bill small, slender, and compressed, the exposed culmen much shorter than tarsus, its depth through gonydeal angle much greater than its width at latero-frontal antiæ, much less than half the distance from nostril to tip of maxilla; culmen faintly depressed sub-basally slightly elevated basally, gently curved from near base to tip; gonys straight, ascending terminally, its rather prominent basal angle far anterior to nostril; nostril pyriform (the narrow end distal), posteriorly in contact with latero-frontal feathering, the latter slightly but distinctly indented at base of culmen; mandibular rami for greater part feathered, the ill-defined malar antia about on same vertical line as latero-frontal antia; mental antia about on line with anterior end of nostril. Wing small, the longest primary (first or first and second, from outside) exceeding distal secondaries by a little more than half the length of wing. Tail about three-sevenths as long as wing, decidedly rounded, nearly concealed by coverts; rectrices 12. Tarsus longer than middle toe without claw (but shorter than middle toe with claw), the acrotarsium reticulate; outer toe as long as middle toe, the inner toe as long as first two phalanges of middle toe.

Coloration.—Upper parts plain dusky slate color or slate-gray, the scapulars and interscapulars darker centrally; under parts immaculate white; no special breeding plumage.

Range.—Islands along coasts of Lower California and southern California. (Two species.)

KEY TO THE SPECIES OF ENDOMYCHURA.

1. Under wing-coverts wholly immaculate white; upper parts blackish slate; inner webs of distal primaries pure white (or nearly so) for greater part; slate-colored feathers of sides and flanks conspicuously tipped with white or grayish white. (Monterey Bay, California, to Cape San Lucas, Lower California.)

Endomychura hypoleuca (p. 752).

2. Under wing-coverts mostly brownish gray; upper parts sooty slate or nearly seal brown; inner webs of distal (and other) primaries grayish brown, but little paler than outer webs, except at base; feathers of sides and flanks without whitish tips. (Coasts and islands of southern Lower California, from Cape San Lucas to Espiritu Santo and Natividad islands.) *Endomychura craveri* (p. 753).

^a *Μικρός*, small; + *Uria*. (Richmond.)

^b *Ἐνδόμυχος*, concealed; *οὐρά*, tail. (Richmond.)

ENDOMYCHURA HYPOLEUCA (Xantus).

XANTUS'S MURRELET.

Adults in breeding plumage (sexes alike).—Upper parts, including whole of loreal and upper half of auricular regions, slate color or deep slate-gray, the scapulars, interscapulas, and wing-coverts slate-blackish centrally, the primaries and primary coverts dull blackish slate narrowly margined with slate color; a narrow white crescentic mark beneath lower eyelid; entire under parts, except outer portion of sides and flanks, immaculate white; outer portion of sides and flanks slate-gray, some of the feathers tipped with white; under wing-coverts immaculate white; inner webs of primaries grayish white passing into gray distally and toward shafts; bill black, the basal portion of mandible pale bluish in life; iris dark brown; inner side of tarsi and upper surface of toes and webs pale blue (in life), the outer side of tarsi and under side of feet dusky.

Winter plumage?—Similar to the summer plumage, but with white on sides of head involving most of the loreal, suborbital, and auricular regions.

Downy young.—Upper parts uniform black; under parts, including malar and suborbital regions, immaculate pure white; a flank-patch of grayish black or dusky gray, confluent with black of rump; thighs blackish.

Adult male.—Wing, 118.1; exposed culmen, 19; tarsus, 24.1.^a

Adult female.—Wing, 113–127.5 (118.3); tail, 30–33 (31.3); exposed culmen, 15.2–23 (18); tarsus, 22–25 (23.8); middle toe 21.5–24.5 (22.7).^b

Coasts and islands of southern California and Lower California, from Monterey Bay to Cape San Lucas;^c breeding (at least formerly) on Santa Barbara and Los Coronados islands.

Brachyrhamphus hypoleucus XANTUS, Proc. Ac. Nat. Sci. Phila., xi, Nov., 1859, 299 (Cape San Lucas, Lower California; coll. U. S. Nat. Mus.).—BAIRD, Proc. Ac. Nat. Sci. Phila., xi, 1859, 306 (Cape San Lucas; crit.).—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 8, 1867, (vol. ii), pl. 72.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 64 (monogr.); Check List, 2d ed., 1882, no. 868.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 757); v, 1883, 534, footnote (Cape San Lucas and San Jose del Cabo); Nom. N. Am. Birds, 1881, no. 757.—GOSS, Auk, i, 1884, 396 (at sea near San Diego, California, May 20, 1884; measurements, etc.).

[Brachyrhamphus] hypoleucus COUES, Key N. Am. Birds, 2d ed., 1884, 813.

^a One specimen.

^b Six specimens.

^c Definite localities are: San Diego, Jan. 27; Monterey Bay (Sept. 2 to Apr. 25, July 29, several pairs); between San Pedro and Santa Catalina Island; near Santa Barbara; Santa Barbara Island; Santa Cruz Island; Los Coronados Islands (May 15, 20), Guadalupe Island, San Benito Island, San Jose del Cabo, and Cape San Lucas.

- Brachyramphus hypoleucus* ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 8, 1867, (vol. ii), text to pl. 72.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 502.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 25; 3d ed., 1910, p. 30.—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 250 (Cape region, Lower California; Santa Barbara Islands, California, breeding; San Diego, California).—GRINNELL (J.), Pub. 1, Pasadena Ac. Sci., 1897, 23 (between San Pedro and Santa Catalina Island, and near Santa Barbara, California); Pub. 2, 1898, 6 (Santa Barbara Island, May 13); Pacific Coast Avif., no. 11, 1915, 19 (Santa Barbara Islands, resident; occasional north to Monterey Bay).—MAILLIARD, Auk, xv, 1898, 197 (Monterey Bay, Dec., Jan.).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 15 (Lower California range).—BECK, Condor, ix, 1917, 58 (Monterey Bay, Nov.-Feb.); Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 60 (Monterey Bay, Sept. 2-Apr. 25; July 29, several pairs; crit.).—LINTON, Condor, x, 1908, 125 (Santa Cruz Island, California).—LAMB, Condor, x, 1908, 819 (Los Coronados Islands, Lower California, breeding; nesting habits).—WRIGHT, Condor, xi, 1909, 98 (Los Coronados Islands, breeding).
- Brachyramphus hypoleucus* RIDGWAY, Man. N. Am. Birds, 1887, 15.
- Micruria hypoleuca* GRANT (O), Cat. Birds Brit. Mus., xxvi, 1898, 594 (San Benito Island, Lower California).—THAYER and BANGE, Condor, x, 1908, 104 (Guadalupe Island, Lower California).
- [*Micruria*] *hypoleuca* SHARPE, Hand-list, i, 1899, 131.
- [*Micruria*] *hypoleuca* ANTHONY, Auk, xvii, 1900, 168, in text (crit.).
- Endomychura hypoleuca* OBERHOLSER, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 201.
- [*Endomychura*] *hypoleuca* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52.
- [*Synthliborhamphus*] *wurmizusume* (not *Uria wumizusume* Temminck!) COUES, Key N. Am. Birds, 1872, 344, part (supposed young or winter adult!).

ENDOMYCHURA CRAVERI (Salvadori).

CRAVERI'S MURRELET.

Similar to *E. hypoleuca* but with under wing-coverts mostly brownish gray; inner webs of all the primaries light grayish brown, without any well-defined whitish area; color of upper parts more brownish or sooty; dusky feathers of sides and flanks without distinct (if any) paler tips, and coloration of downy young very different.^a

Adults in summer and winter.—Upper parts, including whole of loreal and orbital regions and upper portion of auricular region plain blackish slate; a whitish bar or crescentic mark beneath lower eyelid and a less distinct one immediately above upper eyelid; under parts, except sides and flanks, immaculate white; sides and flanks plain dull slate color or brownish slate; under wing-coverts brownish slate-gray, some of the larger ones and tips of some of the smaller coverts white or grayish white; inner webs of primaries grayish white only toward base; bill black; iris dark brown; legs and feet pale brownish (probably bluish in life).

^a For an excellent statement of the various differences between the two species see Brewster, Bull. Mus. Comp. Zool., xli, no. 1, 1902 (Birds of the Cape Region of Lower California), pp. 16-19.

Downy young.—Upper parts uniform deep sooty grayish; under parts, including malar region, immaculate white.

Adult male.—Wing, 116.8^a; tail, 35^a; exposed culmen, 19.8–20 (19.9)^b; depth of bill at gonydeal angle, 5.1–5.3 (5.2); tarsus, 21.5–22.9 (22.2)^b; middle toe, 20.3–20.5 (20.4).^b

Southern portion of Lower California, from Natividad Island (lat. 28° N.) on Pacific side and from Espiritu Santo Island in Gulf of California (lat. 24° 15' N.) to Cape San Lucas.

Uria craveri SALVADORI, Atti Soc. Ital. Sci. Nat., viii, fasc. iv, Feb. 8, 1886, Estr. 17 (Natividad Island, c Gulf of California; coll. Turin Mus.).—MARTES, Journ. für Orn., 1868, 70.

Brachyrhamphus craveri COUES, Proc. Ac. Nat. Sci. Phila., 1868, 66 (monogr.); Check List, 2d ed., 1882, no. 869.—RIDGWAY, Cat. Aquatic and Fish-eating Birds, 1883, 41.

B[rachyrhamphus] craveri COUES, Key N. Am. Birds, 2d ed., 1884, 814; 4th ed. 1894, 814, figs. of head and leg (crit.).

Brachyrhamphus craveri STREETS, Bull. U. S. Nat. Mus., no. 7, 1877, 32 (Isla Raza, Gulf of California, breeding; descr. nest and eggs; habits; crit.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 758); v, 1883, 534, footnote (Cape San Lucas); Nom. N. Am. Birds, 1881, no. 758.

[*Brachyrhamphus*] *craveri* ELLIOT, Illustr. New and Unfig. N. Am. Birds, i, 1869, introd. (fig. of head and leg; quotes orig. descr.; crit.).

[*Brachyrhamphus*] *craveri* GRAY, Hand-list, iii, 1871, 100, no. 10815.

Brachyrhamphus craveri BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., i, 1884, 502.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, p. 30.—COOKE, Auk, xxxiii, 1916, 80 (type locality probably Isla Raza, Lower California).

Brachyrhamphus craveri AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 26.—BRYANT, Proc. Calif. Sc. Sci., 2nd ser., ii, 1888, 251 (Cape San Lucas; Natividad Island).—BREWSTER, Bull. Mus. Comp. Zool., xli, no. 1, 1902, 16 (near San José Island, and Espiritu Santo Island, Lower California).

B[rachyrhamphus] craveri RIDGWAY, Man. N. Am. Birds, 1887, 15.

Micruria craveri GRANT (O.), Cat. Birds Brit. Mus., xxvi, 1898, 595.—ANTHONY, Auk, xvii, 1900, 168, in text (crit.).

[*Micruria*] *craveri* SHARPE, Hand-list, i, 1899, 131.

Endomychura craveri OBERHOLSER, Proc. Ac. Nat. Sci. Phila., June 2, 1899, 20.

[*Endomychura*] *craveri* FORBES and ROBINSON, Bull. Liverp. Mus., xii, no. 2, 1899, 52.

[*Synthliborhamphus*] *wurmisenume* (not *Uria wurmisenume* Temminck) COUES, Key N. Am. Birds, 1872, 344, part (supposed young or winter adult!).

^a One specimen.

^b Two specimens.

A specimen of unknown sex (from Isla Raza, Gulf of California) measures as follows: Wing, 117.3; tail, 34.3; exposed culmen, 20; depth of bill at gonydeal angle, 5.5; tarsus, 23.4; middle toe, 22.1. No adult female examined.

^c According to Cooke, Auk, xxxiii, 1910, 80, the type locality is probably Isla Raza, Gulf of California, and not Natividad Island.

Genus SYNTHLIBORAMPHUS Brandt.

Synthliborampus BRANDT, Bull. Ac. St. Petersb., ii, 1837, 347. (Type, *Alca antiqua* Gmelin.)

Synthliborhampus (emendation) GRAY, List Gen. Birds, 2d ed., 1841, 98.

Rhamphosynthlipsia^a COUES, Key N. Am. Birds, 5th ed., ii, Dec., 1903, 1075. (Type, *Uria wumiusume* Temminck.)

Small Phalerinæ (wing 125-141 mm.) with acrotarsium transversely scutellate, outer toe (without claw) longer than middle toe (without claw), depth of bill at base of gonys equal to length of gonys, and mandibular rami extensively unfeathered.

Bill very short (exposed culmen not more than half as long as tarsus), deep (depth at latero-frontal antiæ equal to or greater than length of gonys), much compressed anteriorly; culmen regularly and rather strongly curved; gonys very short (slightly more than half as long as exposed culmen), straight, ascending terminally, the mandibular rami relatively broad; commissure nearly straight for most of its length, gently decurved terminally, the tomia of both maxilla and mandible indistinctly notched subterminally; nostril broadly cuneate or triangular, with a broad and prominent oblique operculum overhanging upper-anterior edge and occupying whole of upper-anterior portion of nasal fossa; latero-frontal antia close to culmen, on same vertical line with anterior end of nostril, the medio-frontal edge of feathering very slightly indented at base of the broadly rounded culmen; malar antia about on line (vertically) with posterior end of nostril, or slightly posterior to it; mental antia very slightly anterior to anterior end of nasal fossa. Wing small, the longest primary (outermost) exceeding distal secondaries by slightly more than half the length of wing. Tail less than three-sevenths (very slightly more than one-fourth) as long as wing, very slightly rounded, the rectrices (14) broadly rounded at tips. Tarsus slightly longer than middle toe without claw, the acrotarsium transversely scutellate, the scutella extending over greater part of inner and anterior half of outer side; outer toe, without claw, longer than middle toe without claw, the inner toe (without claw) longer than first two phalanges of middle toe.

Plumage and coloration.—Plumage of whole frontal region very full, semierect, blended, in one species developed into a distinct crest, that of malar, suborbital and auricular regions, chin, and throat shorter and softer. In breeding plumage, greater part of head uniform black (more fuscous or slaty on throat, etc.), the supra-auricular region (in one species the superciliary region also) streaked with white; back, scapulars, rump, and upper tail-coverts plain slate-gray; under parts immaculate white, the sides and flanks uniform sooty black. Winter plumage with whole throat white (the

^a Ράμφος, beak; σὺν, with; θλίψις, pressure. (Richmond.)

chin slate-grayish), without white superciliary or supra-auricular stripe, and with sides and flanks white striped with slaty or blackish.

Range.—Coasts and islands of northern Pacific Ocean, from Kuril Islands and Kamchatka (including Commander Islands) to easternmost Aleutian Islands; southward in winter to Japan and southern California. (Two species.)

KEY TO THE SPECIES OF SYNTHLIBORAMPHUS.

- a. Wing more than 130; middle toe 24–28; *breeding plumage* without crest, with chin, throat, and upper foreneck deep fuscous or clove brown, sides of neck white, no white over eye, and lower hindneck streaked with white. (Pacific coast, from California to Japan.).....*Synthliboramphus antiquus* (p. 757).
- aa. Wing less than 130 (122.5–125.5); middle toe 22.5–23; *breeding plumage* with a frontal crest of slender elongated feathers; chin and upper half of throat slate-gray, the lower throat white, like rest of under parts; sides of neck black; a broad white stripe over eye; lower hindneck not streaked with white. (Japan; Korea.).....*Synthliboramphus wumizusume* (extralimital).^a

^a *Uria wumizusume* Temminck, Pl. Col., v, livr. 98, 1835, pl. 579 and text (coast of Korea and Japan).—*Synthliboramphus wumizusume* Coues, Proc. Ac. Nat. Sci. Phila., 1868, 58, fig. 4 (monogr.); Check List, 1873, no. 628; Ridgway, Nom. N. Am. Birds, 1881, no. 754.—[*Synthliboramphus*] *wumizusume* Coues, Key N. Am. Birds, 1872, 344.—*Mergulus wumizusume* Barrows, Proc. Bost. Soc. N. H., xix, 1877, 157 (monogr.).—[*Anobapton* (*Synthliboramphus*)] *wumizusume* Bonaparte, Compt. Rend., xlii, 1856, 774.—*Synthliboramphus wumizusume* Baird, Brewer, and Ridgway, Water Birds N. Am., ii, 1884, 505; Stejneger, Proc. U. S. Nat. Mus., ix, 1886, 524 (geogr. range); x, 1887, 482 (Idzu Islands, Japan); American Ornithologists' Union, Check List, 1886 (and 2d ed., 1895), no. 22.—[*Synthliboramphus*] *wumizusume* Ridgway, Man. N. Am. Birds, 1887, 14.—*Synthliboramphus wumizusume* Reichenbach, Vollst. Naturg. Vogel, Natatores, 1845, pl. 4, fig. 31; Grant, Cat. Birds Brit. Mus., xxvi, 1898, 598 (Japan).—*Uria umizusume* Temminck and Schlegel, Fauna Japonica, Aves, 1845, 123, pl. 79.—*Brachyrhamphus umizusume* Blakiston and Pryer, Ibis, 1879, 210 (Hakodadi, Tokyo Bay and Shimoda, Japan).—*Synthliboramphus umizusume* Coues, Check List, 2d ed., 1882, no. 865.—[*Synthliboramphus*] *umizusume* Coues, Key N. Am. Birds, 2d ed., 1884, 812.—*Alca umizusume* Rickett, Ibis, 1894, 225 (Foochow, China).—*Synthliboramphus temminckii* Brandt, Bull. Ac. St. Petersb., ii, 1837, 347 (new name for *Uria wumizusume* Temminck).—*Brachyrhamphus temminckii* [Cabanis] Journ. für Orn., 1858, 448.—*Brachyrhamphus temminckii* Cassin, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 916; Baird, Cat. N. Am. Birds, 1859, no. 737; Elliot, Illustr. New and Unfig. N. Am. Birds, pt. 6, 1867 (vol. ii), pl. 71 and text.—*Alca temminckii* Schlegel, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 22.

Adult in breeding plumage (sexes alike).—Forehead, center of crown, hindneck, and sides of neck black, this color continued from sides of neck along sides to and including flanks, the hindneck sometimes with a few white streaks; forepart of crown with a loose crest of slender, much elongated, slightly decurved feathers, inclining backward toward occiput; a broad white stripe originating on each side of crest and extending backward to and including occiput, where the two of opposite sides are confluent; loreal, orbital, auricular, and malar regions and upper half of throat uniform velvety slate-gray, with a truncated posterior outline on throat; remaining under parts immaculate white; upper parts, except as described, plain slate-grayish, the anterior lesser wing-coverts, remiges, and tail dusky; bill yellowish (in dried skins), the culmen black; iris dark brown; legs and feet dusky yellowish (in dried skins).

SYNTHLIBORAMPHUS ANTIQUUS (Gmelin).

ANCIENT MURRELET.

Adult in breeding season (sexes alike).—Pileum, hindneck, and loreal region uniform dull black, the malar, suborbital and auricular regions, chin, throat, and upper foreneck uniform deep fuscous or clove brown, with a rounded or convex outline on foreneck; supra-auricular region and sides of occiput narrowly streaked with white, forming a more or less broken broad stripe, the lower hindneck similarly but more sparsely streaked; back, scapulars, and rump uniform gray (between slate-gray and neutral gray); wing-coverts fuller or more brownish gray (between neutral gray and deep mouse gray), the primaries, etc., darker; upper tail-coverts and tail dull blackish or dusky; sides of neck, lower foreneck, and rest of under parts except sides and flanks immaculate white; sides and flanks uniform sooty black or fuscous-black; under wing-coverts white; bill grayish lilaceous-white or bluish white (in life), darker basally, with a stripe of black along culmen; interior of mouth bluish white; iris dark brown; legs and feet grayish white faintly tinged with violet-blue, the outer side of tarsus more bluish, the joints and webs dark bluish gray.^a

Winter plumage.—Throat immaculate white, the chin (sometimes upper throat also), slate-grayish; white streaks on supra-auricular region, sides of occiput, and lower hindneck wanting; sides and flanks white, the outermost portion striped with slaty or grayish dusky; otherwise as in summer.

Adult male.—Wing, 130.5–140.5 (134.7); tail, 33–39 (35); exposed culmen, 13–14 (13.3); tarsus, 25.5–28 (27); middle toe, 25–28 (26.7).^b

Adult female.—Wing, 132–138 (135.5); tail, 33–39 (36); exposed culmen, 12.5–14 (13.2); tarsus, 26–27 (26.5); middle toe, 24–26.5 (25.4).^c

Coasts and islands of northern Pacific Ocean and adjacent portion of Bering Sea; breeding from Unga Island,^d Alaska Peninsula, through Aleutian chain (including Nearer Islands) to Commander Islands, Kamchatka, and Kuril Islands, also (formerly) on Pribilof Islands

Winter plumage.—Similar to the breeding plumage but whole throat white, chin light gray, crest and white stripe on lateral and posterior portion of pileum absent, and sides of flanks white striped with gray.

Downy young.—Upper parts brownish gray, the back and rump indistinctly streaked with grayish white; under parts, including chin, entirely immaculate white.

Adult male.—Wing, 122.5–125.5 (124.3); tail, 34–38 (36); exposed culmen, 13.5–15 (14.5); tarsus, 24–25 (24.3); middle toe, 22.5–23 (22.7). (Three specimens; no adult male examined.)

^a Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 24.

^b Three specimens, from Alaska.

^c Six specimens, five from Alaska, one from California (winter).

^d Probably breeding on Kodiak Island (St. Paul, Kodiak, June 26, 1882).

(St. George); southward in winter to Japan (Tsushima; Hakodate; Idsu-No-Kumi; Yokohama; Tauraga; Yezo), southeastern Siberia (Usuri Bay), and southern California (Monterey Bay, Sept. 3 to March 22; San Diego Bay, winter visitant); accidental in northern China (Foochow), Wisconsin (Lake Koshkonong, Oct., 1882), and Ontario (Lake Ontario, near Toronto, Nov. 18, 1891; Canadian shore of Lake Erie, 7 miles from Buffalo, New York, Nov. 15, 1908).

[*Alca*] *antiqua* GMELIN, Syst. Nat., i, pt. ii, 1789, 554 ("west of North America to Kamchatka and the Kuril Islands"; type now in coll. Liverpool Mus.^a).—LATHAM, Index Orn., ii, 1790, 795.

Alca antiqua BONNATERRE, Tabl. Encycl. Méth., i, 1790, 33.—VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 383.—LICHTENSTEIN, Verz. Doubl., 1823, 89, in text.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 536.—SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 21.—SEEBOHM, Birds Japanese Emp., 1890, 276; Ibis, 1892, 96 (Tsushima, Japan).

Fratrercula antiqua STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 42.

Uria antiqua BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ('Synopsis'), 426, footnote.—KITTLITZ, Isis, 1832, 1104.—AUDUBON, Orn. Biog., v, 1839, 100, pl. 402, fig. 1 (only); Synopsis, 1839, 349; Birds Am., 8vo ed., vii, 1844, 263, pl. 470, fig. 1 (only).—TEMMINCK and SCHLEGEL, Fauna Japonica, Aves, 1842, 124, pl. 80.—SCHRENCK, Reis. Amur-land, i, 1859, 499, pl. 16, figs. 2, 3 (eggs).—WHITELY, Ibis, 1867, 209 (Hakodate, Japan).—HOMER, Journ. für Orn., 1870, 435 (e. Siberia).—SEEBOHM, Ibis, 1884, 166 (Hakodate).

Synthliboramphus antiquus BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 347; Mélang. Biol., vii, 1869, 217.—FINSCH, Abh. Nat. Ver. Bremen, iii, 1872, 80 (Kamchatka; Aleutian Islands).—TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri-land, e. Siberia); Bull. Soc. Zool. France, ii, 1877, 51 (Abrek Bay); vii, 1883, 345 (Kamchatka); Orn. Faun. Vost. Sibir., 1877, 74; Mém. Ac. St. Pétersb., xxxix, 1893, 1215 (e. Siberia).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 504.—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 23, pl. 5, figs. 6, 7 (Commander Islands, breeding; synonymy, measurements, etc.); Proc. U. S. Nat. Mus., xxi, 1898, 273 (Kuril Islands, breeding).—TURNER, Auk, ii, 1885, 59 (Attu Island, Aleutians, resident).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 21; 3d ed., 1910, p. 29.—NELSON, Rep. N. H. Coll. Alaska, 1887, 43 (St. George Island, Pribilofs; Aleutian Islands; Alaska Peninsula; Sitka).—LITTLEJOHN and BENDIRE, Auk, xii, 1895, 270-278 (habits; descr. eggs).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., vi, 1896, 17 (California).—MALLARD, Auk, xv, 1898, 197 (Monterey Bay, California, Dec., Jan.).—PALMER (W.), Avif. Pribilof Is., 1899, 389 (Aleutian Islands; said by Dall to have been formerly common on St. George Island, Pribilofs).—LINTON, Condor, i, 1908, 125 (Santa Cruz Island, California, Dec.).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 32 (Atka, Attu, Agattu, and other Aleutian Islands; Commander Islands; coast Kamchatka; Kuril Islands, south to Simushir).—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 59 (Monterey Bay, Sept. 3-March 22).—FLEMING, Auk, xxix, 1912, 387 (Lake Ontario, near Toronto, Nov. 18, 1901; Canadian shore Lake Erie, 7 miles from Buffalo, New York, Nov. 15, 1908).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 37 (Commander Islands, May 29).—HERSEY, Smithsonian Misc. Coll., lrv, no. 2, 1916, 9 (Ketchikan, Alaska).—GRINNELL (J.), Pacific Coast Avif. no. 11, 1915, 18 (winter visitant south to San Diego Co.).

^a According to Forbes and Robinson, Bull. Liverp. Mus., ii, no. 2, 1899, 52.

- [Synthliboramphus] antiquus* RIDGWAY, Man. N. Am. Birds, 1887, 14.
- Synthliboramphus antiquus* BAIRD, Cat. N. Am. Birds, 1859, no. 736.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 56, fig. 13 (monogr.); Check List, 1873, no. 627; 2d ed., 1882, no. 864.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 171 (Sitka).—KUMLEN, Auk, i, 1881, 98 (Lake Koshkonong, Wisconsin, 1 spec., Oct., 1882).—TURNER, Contr. N. H. Alaska, 1886, 120 (Atka Island and Nearer Islands, Aleutians, breeding).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 596.
- [Synthliboramphus] antiquus* COUES, Key N. Am. Birds, 1872, 344.—SHARPE, Hand-list, i, 1899, 132.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 52 (Idsu-no-kumi, Yokohama, and Tauruga, Japan).
- [Synthliboramphus] antiquus* COUES, Key N. Am. Birds, 2d ed., 1884, 811.
- Synthliboramphus antiquus* DALL, Proc. Cal. Ac. Sci., v, 1873, 35 (Chica Islets, near Unalaska, Alaska, breeding).
- Brachyrhamphus (Synthliboramphus) antiquus* BRANDT, Bull. Ac. St. Petersb., ii, 1837, 347.
- Brachyrhamphus antiquus* GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 157.—CASSIN, Rep. U. S. Expl. Exped. (Wilkes), Orn., 1858, 348; in Baird, Rep. Pacific R. R. Surv., ix, 1858, 916.
- [Brachyrhamphus] antiquus* GRAY, Hand-list, iii, 1871, 100, no. 10812.
- Brachyrhamphus antiquus* GRAY, Gen. Birds, iii, 1848, pl. 177.—REICHENBACH, Natatores, 1850, pl. 6, figs. 2710, 2711, 2712, 2714, and pl. 9, figs. 2230–2232.—BAIRD, Cat. N. Am. Birds, 1859, no. 736.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 310 (St. George Island, Pribilof group; Amak Island, Aleutians; Sitka).—DALL, Proc. Calif. Ac. Sci., v, 1873, 280 (Kyska Island, etc., Aleutians).—BLAKISTON and PEYER, Ibis, 1878, 210 (Yezo and Yokohama, Japan); Trans. Asiat. Soc. Japan, viii, 1880, 180; x, 1882, 90.—BLAKISTON, Amend. List Birds Japan, 1884, 8.
- [?] *Alca pygmaea* (not *A. pygmaea* Gmelin?) VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 383.
- Synthliboramphus antiquus* NELSON, Cruise 'Corwin' in 1881 (1883), 116 (Aleutian Islands).
- Mergulus antiquus* BONAPARTE, Geog. and Comp. List, 1838, 66.—AUDUBON, Birds Am., fol. ed., 1839, pl. 402, fig. 1.—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 157 (monogr.).
- Uria senicula* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 367, pl. 85 (Kuril Islands; Aleutian Islands; Kamchatka).
- Brachyrhamphus brachypterus* BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 346 (Unalaska; ex *Uria brachyptera* Kittlitz, manuscript).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 917.
- Brachyrhamphus brachypterus* BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 335, 917 (Unalaska); Cat. N. Am. Birds, 1859, no. 734.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 66 (monogr.); Check List, 2d ed., 1882, 870.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 212 (Cat. N. Am. Birds, no. 759); Nom. N. Am. Birds, 1881, no. 759.
- B[achyrhamphus] brachypterus?* COUES, Key N. Am. Birds, 2d ed., 1884, 814.
- Mergulus cirrhocephalus* VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 32 (no locality mentioned).—BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 335 (Pacific coast North America).
- A[rectica] cirrhocephalus* GRAY, Gen. Birds, iii, 1848, 645.
- Uria cana* KITTLITZ, in Lutké, Voy. Séniavine, iii, 1836, 272 (Unalaska; nomen nudum); Denkw. Reise, i, 1858, 288 (Amaknak Is., Alaska).
- Brachyrhamphus temminckii* (not *Synthliboramphus temminckii* Brandt) COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 287 (Puget Sound; habits).

Alca umisusume (not *Uria umisusume* Temminck) RICKETT, *Ibis*, 1894, 25 (Foochow, China); 1895, 168 (correction).

Alle alle (not *Alca alle* Linnaeus) AMES, *Auk*, xix, 1902, 94 (near Toronto, Ontario, Nov. 18, 1901).^a—WHEELER, *Bird Lore*, xi, 1909, 174 (Canadian shore Lake Erie, near Buffalo, New York, Nov. 15, 1908).^a

Genus PTYCHORAMPHUS Brandt.

Ptychoramphus BRANDT, Bull. Sci. Acad. Imp. St.-Petersb., ii, 1837, 346. (Type, by monotypy, *Uria aleutica* Pallas.)

Ptychoramphus (emendation) BRANDT, *Isis*, 1837, 502.

Small Phalarinæ (wing about 110–130 mm.) with subconical depressed bill, very long gonys (as long as or longer than distance from nostril to tip of maxilla), wholly unfeathered nasal fossæ, and very plain coloration, without any ornamental plumes on head in breeding season.

Bill subconical, depressed at base, its depth at base of exposed culmen equal to less than half the length of exposed culmen and not greater than its width at same point, and slightly less than its depth at gonydeal angle; culmen depressed basally, then gently convex to the tip; gonys as long as or longer than distance from nostril to tip of maxilla, straight or very faintly convex, ascending terminally, its basal angle prominent; maxillary tomium nearly straight for most of its length, but distinctly convex beneath nostril, distinctly notched subterminally; mandibular tomium nearly straight, slightly toothed and notched subterminally, the tip of mandible acute and very slightly recurved; side of mandible ridged along upper portion. the ridge broad in middle portion, where the lower edge forms an angle below anterior end of nasal fossa; nasal fossa broad, wholly unfeathered, the longitudinal slit-like nostrils in lower edge and overhung by a broad, semicorneous convex (in vertical view) operculum; mandibular rami (measured from gonydeal angle to rictus) with about anterior third unfeathered, the malar antia forming a rather distinct median angle; anterior edge of loreal feathering forming a slight convex line from base of culmen to rictus; mental antia broad, about on same vertical line with posterior end of nostrils. Wing moderate, the longest primary (outermost) exceeding distal secondaries by less than half the length of wing. Tail about one-fourth as long as wing, slightly rounded; rectrices 14. Tarsus shorter than middle toe without claw (but longer than bill from rictus), the acrotarsium reticulate; outer toe (without claw) as long as middle toe (without claw), the inner toe as long as first two phalanges of middle toe.

Plumage and coloration.—No ornamental plumes in breeding season. Upper parts plain blackish slate, the head and neck (except pileum) more grayish, the sides and flanks slate-grayish; rest of under parts immaculate white.

^a According to Fleming, *Auk*, xxix, 1912, 387.

Range.—Pacific coast of North America, from California to Aleutian Islands. (Monotypic.)

PTYCHORAMPHUS ALEUTICUS (Pallas).

CASSIN'S AUKLET.

Adults (sexes alike).—Upper parts plain grayish dusky or dull blackish slate, inclining to dull brownish slate on hindneck and post-ocular region, the rump and upper tail-coverts more decidedly slaty, the back and scapulars tinged with the same; an indistinct whitish bar or elongated spot near each eyelid; malar and rictal regions, chin, throat, and foreneck plain brownish gray (between quaker drab and deep mouse gray), the outer portion of sides and flanks pure gray (nearly neutral gray); under wing-coverts brownish gray, some of the larger coverts grayish white; rest of under parts immaculate white; bill black, the basal third of mandible pale brownish (yellowish or flesh colored in life?); iris white; legs and feet dusky brownish (bluish and dusky in life).

Young.—Similar in coloration to adults.

Downy young.—Upper parts deep sooty grayish brown, the sides and chest similar but paler; chin, throat, breast, and abdomen dull grayish white.

Adult male.—Wing, 109.5–129 (120.7); tail, 28–34.5 (31.4); exposed culmen, 18.5–20 (19.3); tarsus, 23.5–25 (24.6); middle toe, 26.5–30 (28.7).^a

Adult female.—Wing, 120–122 (121); tail, 25–32.5 (29.3); exposed culmen, 18.5–19 (18.8); tarsus, 24–25 (24.3); middle toe, 28–28.5 (28.2).^b

Pacific coast and islands of North America, from Aleutian Islands (Atka; Attu; Agatu; Unalaska) to Lower California (San Gerónimo island, breeding; Los Coronados Islands, breeding; Cerros Island winter; Natividad Island, April 14; San Benito Island, April 26;

^a Eight specimens.

^b Three specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
two adult males from Alaska.....	125	31.7	19.5	24.7	29.2
two adult males from California.....	124.2	33.2	19.5	24.7	29
four adult males from Lower California (three from Los Coronados Islands).....	116.7	30.2	19.1	24.4	28.4
one adult female from Alaska.....	122	(26)	18.5	24	28
two adult females from California.....	120.5	31.5	19	24.5	28.2

Guadalupe Island; San Miguel Island; Cape Colnett, Dec. 3); breeding, locally, throughout its range; Kamchatka?? Kuril Islands??

Uria aleutica PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 370 (northern Pacific Ocean or eastern portion of Bering Sea).

Ptychoramphus aleuticus BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 347; Mélang. Biol., vii, 1869, 222.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 517.—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 27, footnote, (molt of bill), 314 (Kamchatka?); Proc. U. S. Nat. Mus., xxi, 1898, 273 (Kuril Islands?).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 16; 3d ed., 1910, p. 27.—TURNER, Contr. N. H., Alaska, 1886, 119 (Atka Island, Aleutians).—NELSON, Rep. N. H. Coll. Alaska, 1887, 40 (Aleutian Islands to Lower California).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., i, 1888, 27 (Farallon Islands, breeding; habits; descr. nest and eggs); ii, 1889, 250 (San Geronimo Island, Lower California, breeding; Cerros Island, winter).—LAWRENCE (R. H.), Auk, ix, 1892, 353 (Point Chehallis, Washington, Dec.).—STEPHENS, Auk, x, 1893, 298 (Santa Catalina Islands, March, April; habits).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., vi, 1896, 17 (California).—GRINNELL, (J.), Pub. 1, Pasadena Ac. Sci., 1897, 22 (Santa Barbara Island, breeding; habits); Pacific Coast Avif., no. 11, 1915, 18 (coast California, common summer resident and breeding).—GRINNELL and DAGGETT, Auk, xx, 1903, 30 (Los Coronados Islands, Lower California, breeding).—RAY, Auk, xxi, 1904, 429 (Farallon Islands; habits, etc.).—THAYER and BANGS, Condor, ix, 1907, 80 (Natividad I., Lower California 1 spec., Apr. 14), 81 (San Benito Islands, Lower California, April 26); x, 1908, 104 (Guadalupe I., Lower California).—LINTON, Condor, x, 1908, 125 (Santa Cruz I., California).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 31 (coast of s. Oregon to Puget Sound; Unalaska, Agattu, Atka, and Attu islands, Aleutian chain).

[Ptychoramphus] aleuticus RIDGWAY, Man. N. Am. Birds, 1887, 12.

Ptychoramphus aleuticus BAIRD, in Rep. Stansbury's Surv. Great Salt Lake, 1852, 335 (Aleutian Islands); Cat. N. Am. Birds, 1859, no. 724.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 910.—ELLIOT, Illustr. New and Unfg. N. Am. Birds, pt. 4, 1867 (vol. ii), pl. 69 and text.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 52 (monogr.); Check List, 1873, no. 625; 2d ed., 1882, no. 862.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 751); Nom. N. Am. Birds, 1881, no. 751.—EVERMANN, Auk, iii, 1886, 88 (Santa Barbara Islands, breeding).—TOWNSEND (C. H.), Proc. U. S. Nat. Mus., xiii, 1890, 140 (San Clemente Island, Jan. 25).—STEPHENS, Auk, x, 1893, 298 (habits).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 599 (Farallon Islands; San Miguel and San Geronimo islands, Lower California).

[Ptychoramphus] aleuticus COUES, Key N. Am. Birds, 1872, 343.—SHARPE, Hand-list, i, 1899, 132.—FORBES and ROBINSON, Bull. Liverp.-Mus., ii, no. 2, 1899, 53 ("Behring Straits").

Ptychoramphus aleuticus COUES, Key N. Am. Birds, 2d ed., 1884, 810.

Ptychoramphus aleuticus NELSON, Cruise 'Corwin' in 1881 (1883), 116 (Aleutian Islands).

Ptychoramphus aleuticus GRINNELL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 6 (Santa Barbara Islands, breeding).

Simorhynchus aleuticus SCHLEGEL, Mus.-Pays-Bas, vi, no. 33 (Urinatores), 1867, 26.

Phalaris aleutica GRAY, Gen. Birds, iii, 1848, 638.

Phalaris aleutica COINDE, Rev. et Mag. de Zool., 1860, 403 (St. Paul Island, Pribilofs).—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 156 (monogr.).

Mergulus cassinii GAMBEL, Proc. Ac. Nat. Sci. Phila., Aug., 1845, 266 (coast of California); Journ. Ac. Nat. Sci. Phila., ii, 1850, 55, pl. 6.—BAIRD, in Stansbury's Rep. Great Salt Lake, 1852, 335 (coast of California).
A[rtica] cassinii GRAY, Gen. Birds, iii, 1848, 645.

Genus PHALERIS Temminck.

Phaleris TEMMINCK, Man. d'Ois., ed. 2, i, 1820, p. cxii. (Type, *Alca psittacula* Pallas. See Allen, Bull. Am. Mus. N. H., xxiv, 1908, 37.)
Cyclorrhynchus KAUP, Entw. Eur. Thierw., 1829, 15. (Type, *Alca psittacula* Pallas.)
Ombria ESCHSCHOLTZ, Zool. Atlas, pt. iv, 1831, 3. (Type, *Alca psittacula* Pallas.)

Medium-sized Phalerinæ (wing 140–152 mm.) with very deep and much compressed bill with strongly convex upper and lower outlines, the mandible only about half as deep as maxilla, strongly recurved to the acute tip, and maxillary tomium strongly convex.

Bill relatively short, deep, and compressed, its greatest depth nearly equal to length of exposed culmen, and equal to more than twice its width at latero-frontal antiæ; culmen and maxillary tomium both strongly convex, the latter distinctly notched subterminally, the tip of maxilla obliquely truncated (in lateral profile); mandible only about half as deep at gonydeal angle as maxilla, both gonys and tomium strongly recurved to the acute tip, the gonydeal angle prominent; mandibular rami feathered for about posterior two-thirds (measured from base of gonys to rictus), the malar feathering forming a distinct median malar antia or angle; nostril longitudinally narrowly ovate, overhung by a broad corneous operculum with flaring lower edge, a considerable corneous space separating the nostril from nearest loreal feathering; latero-frontal antia about on same vertical line with posterior end of nostril, where forming a distinct obtuse angle. Wing moderate, the longest primary (outermost) exceeding distal secondaries by less than half the length of wing. Tail about three-sevenths as long as wing, slightly but distinctly rounded, the rectrices (14 in number) broadly rounded at tips. Tarsus shorter than middle toe without claw, the acrotarsium reticulate; outer toe (without claw) as long as middle toe (without claw), the inner toe as long as first two phalanges of middle toe.

Nuptial ornaments.—The following deciduous accessory pieces at base of the maxilla are present during the breeding season, after which they are shed and do not reappear until the following nesting season: (1) "The soft white swelling at the base of the maxillary tomia, the tomial tumor." (2) "The nasal cuirass, an irregular piece above and behind the nostrils, not continuous with the corresponding piece on the opposite side." (3) "A small unpaired saddle-piece riding at the base of the culmen, rising knoblike above the latter, and with the ends of its legs just touching the upper

corner of the nasal cuirasses. This piece seems to correspond to the 'orlet' of the bill of the *Fraterculinæ*." (4) A small depressed and angle-shaped space behind and below the "orlet" and above the cuirass, between these two pieces and the feathering"^a

Plumage and coloration.—Adults with a line of elongated acicular erectile white feathers, originating immediately beneath lower eyelid and extending thence obliquely backward and downward across side of head to below the auricular region. Head, neck, upper parts, sides, and flanks plain dusky; rest of underparts white.

Range.—Coasts of the northern Pacific Ocean, Bering Sea, and adjacent parts of Arctic Ocean; south in winter to California and Kuril Islands. (Monotypic.)

PHALERIS PSITTACULA (Pallas).

PAROQUET AUKLET.

Adults in breeding plumage (sexes alike).—Upper parts plain dull slate-blackish, gradually passing into dark hair brown or grayish fuscous on chin, throat, and foreneck (sometimes chest also), the sides and flanks uniform grayish fuscous; rest of underparts immaculate white, the chest, however, usually more or less clouded with grayish fuscous; whole undersurface of wing plain grayish brown (between hair brown and fuscous), some of the larger coverts (sometimes, at least,) with a narrow shaft-streak and small terminal spot of grayish white; elongated acicular plumes extending in a line from lower eyelid backward and downward across auricular region, white; bill orange-red or salmon-red (darker in dried skins), the nasal shield dark horn color, the tomial tumor pale flesh color (in life); iris white; legs and feet pale bluish gray or bluish white (in life), the side of tarsus and toes blackish, webs blackish centrally, and joints of toes dusky; interior of mouth whitish.^b

Winter plumage.—Similar to the summer (breeding) plumage, but throat, foreneck, sides, and flanks white, like rest of underparts, or partly so, and white auricular plumes wanting.

Young.—Similar to the winter plumage, but bill smaller and duller red (inclining to brown), and entire underparts, including throat and foreneck, immaculate white.

Downy young.—Above uniform deep brownish gray or sooty grayish brown, the chin, throat and chest similar but paler; rest of underparts pale brownish gray.

^a Quoted from Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 41.

^b Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 40.

Adult male.—Wing, 144.5–152 (148); tail, 39–42 (40.7); exposed culmen, 14.5–16.5 (15.2); greatest depth of bill, 13–15.5 (14.4); tarsus, 26.5–31 (29.2); middle toe, 32–37.5 (35.4).^a

Adult female.—Wing, 140.5–152 (145.8); tail, 39–43 (40.9); greatest depth of bill, 13–15.5 (14.2); tarsus, 28–30 (28.8); middle toe, 32.5–36 (34.5).^a

Coasts and islands of Bering Sea and contiguous portions of northern Pacific Ocean; breeding from northeastern coast of Siberia and northwestern Alaska (including Diomede, St. Lawrence, Hall, St. Matthew, Pribilof, Walrus, and Otter islands, Bering Sea) southward to Kuril, Commander, Aleutian, and Shumagin islands; southward in winter as far as Monterey Bay, California, northern Japan, and Okotsk Sea; accidental in Sweden.

Alca prittacula PALLAS, Spicil. Zool., i, fasc. v, 1769, 13, pl. 2, figs. 4–6 (Kamchatka).—BONNATERRE, Tabl. Enc. Méth., i, 1790, 33, pl. 11, fig. 2.—LICHTENSTEIN, Verz. Doubl., 1823, 89, in text.

[*Alca*] *prittacula* GMELIN, Syst. Nat., i, pt. ii, 1789, 553.—LATHAM, Index Orn., ii, 1790, 794.

Simorhynchus prittaculus MERREM, in Ersch u. Gruber's Encycl., ii, 1819, 407.—SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 24.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 36 (monogr.); Check List, 2d ed., 1882, no. 858.

[*Simorhynchus*] *prittaculus* GRAY, Hand-list, iii, 1871, 97, no. 10786.—D'HAMONVILLE, Cat. Ois. Eur., 1876, 72 (Sweden).

S[imorhynchus] prittaculus COUES, Key N. Am. Birds, 2d ed., 1884, 806.

Phaleris prittacula TEMMINCK, Man. d' Orn., 2d ed., pt. ii, 1820, 929.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 44.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 426; Geog. and Comp. List, 1838, 66.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 534.—FRZINGER, Atl. Nat. Vög., 1864, fig. 343.—WAHLGREN, Jägaref. Tidskr., 1867, 108 (Sweden).—HARTING, Proc. Zool. Soc. Lond., 1871, 121 (Bering Straits).—COUES, Check List, 1873, no. 621; in Elliott's Affairs in Alaska, 1875, 204.—VIAN, Bull. Soc. Zool. France, i, 1876, 1, pl. 1 (Sweden).—TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 52; viii, 1888, 346 (Kamchatka); Mém. Ac. St.-Pétersb., xxxix, 1884, 1227 (e. Siberia).—BARROWS, Proc. Bost. Soc. N.H., xix, 1877, 155 (monogr.).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 747); Nom. N. Am. Birds, 1881, no. 747.—ELLIOTT, Monogr. Pribylov Group,

^a Ten specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Eight adult males from Alaska.....	148.4	40.9	15.2	14.4	29.3	35.4
Two adult males from Bering Island, Kamchatka.....	146.2	40	15.5	14.5	29	35.7
FEMALES.						
Nine adult females from Alaska.....	145.9	40.8	14.8	14.3	28.8	34.7
One adult female from Bering Island.....	145	42	13.5	13	29	33

- 1882, 139 (summer resident, breeding; habits).—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, x, 1882, 89.—BEAN, Proc. U. S. Nat. Mus., v, 1882, 171 (Shumagin Islands, Alaska).—NELSON, Cruise "Corwin" in 1881 (1883), 115 (Aleutian Islands to Plover Bay, Bering Straits, etc.; Diomed Islands, breeding).—BLAKISTON, Amend. List Birds Japan, 1884, 31.—SEEBOHM, Ibis, 1884, 174 (Kuril Islands).—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. Franc., ix, 1884, 147.—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, 1908, 356; Check List, 3d ed., 1910, p. 27.—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 31 (Ulaga Pass, Atka Island, Agattu Island, and Attu Island, Aleutians; Bering Island, Kamchatka; Kuril Islands to Samushir).—BECK, Proc. Calif. Ac. Sci., 4th ser., iii, 1910, 59 (Monterey Bay, California, Jan.).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 8, in text (Amak Island, Bering Sea; not seen beyond Bering Straits).—GRINNELL, Pacific Coast Avip., no. 11, 1915, 18 (winter visitant south to Monterey Bay).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 371 (East Cape, Siberia; Copper Island, July 24; St. Lawrence Island, etc.).
- [*Phaleris*] *psittacula*, COUES, Key N. Am. Birds, 1872, 342.
- Phaleris psittaculus* GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 607.
- [*Phaleris*] *psittaculus* SHARPE, Hand-list, i, 1899, 132.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (St. Paul Island, Pribilofs; Kuril Island).
- Lunda psittacula* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 366.
- Cyclorhynchus psittaculus* KAÜP, Natürl. Syst., 1829, 155.—STEJNEGER, Proc. U. S. Nat. Mus., vii, 1884, 216; xxi, 1898, 275 (Kuril Islands, in summer); Bull. U. S. Nat. Mus., no. 29, 1885, 38, pl. 4, fig. 6 and pl. 5, fig. 1; Cruise "Corwin" in 1884 (1889), 125, pl. 1 (downy young; Otter Island, Bering Sea).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 515.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 17.—TURNER, Contr. N. H. Alaska, 1886, 119 (Aleutian Islands).—NELSON, Rep. N. H. Coll. Alaska, 1887, 40 (Aleutian Islands; St. Lawrence Island; islands in Bering Straits; Pribilof Islands; Plover Bay, Siberia; habits).—TOWNSEND, cruise "Corwin" in 1885 (1887), 98 (Pribilofs; Otter Island).—GRINNELL (J.), Auk, xv, 1898, 124 (Sitka).—SEALE, Proc. Ac. Nat. Sci. Phila., 1898, 128 (Point Barrow; St. George Island).—PALMER (W.), Avif. Pribilof Is., 1899, 385 (abundant, breeding; habits).—LOOMIS, Auk, xviii, 1901, 104 (San Francisco Bay, Dec., Jan.).
- [*Cyclorhynchus*] *psittaculus* RIDGWAY, Man. N. Am. Birds, 1887, 12.
- Cyclorhynchus psittacula* TURNER, Auk, ii, 1885, 159 (Agattu Island, Aleutians, breeding).
- Ombria psittacula* ESCHSCHOLTZ, Zool. Atlas, iv, 1831, 3, pl. 17.—BRANDT, Bull. Ac. St. Petersb., ii, 1837, 348; Mélang. Biol., vii, 1869, 237.—REICHENBACH, Natatores, 1850, pl. 7, figs. 2226, 2227.—MIDDENDORFF, Sibir. Reise, ii, 1851, 239.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 910.—BAIRD, Cat. N. Am. Birds, 1859, no. 725.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 331 (Sea of Okotsk).—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 2, 1866 (vol. ii), pl. 70 and text.—FINSCH, Abh. nat. Ver. Bremen, iii, 1872, 82 (Sea of Okotsk; Kuril Islands).—DALL, Proc. Calif. Ac. Sci., v, 1873, 280 (Amchitka, Aleutian Islands).—BUREAU, Bull. Soc. Zool. Franc., iv, 1879, 48, pl. 5, figs. 1, 2 (molt of bill).—DYBOWSKI, Sitz. Dorp. Naturf. Ges., vi, 1882, 172; Orn. Centralbl., 1882, 40; Bull. Soc. Zool. Franc., vii, 1882, 297.
- Fratercula psittacula* SEEBOHM, Birds Japanese Emp., 1890, 284.
- Phaleris aleutica* (not *Uria aleutica* Pallas) COINDE, Rev. et Mag. de Zool., 1890, 403.

Genus *CICERONIA* Reichenbach.

Ciceronia REICHENBACH, Natürl. Syst. Vög., 1852, p. iii. (Type, by original designation, *Phaleris nodirostra* Bonaparte = *Uria pusilla* Pallas.)

Very small *Phalerinæ* ^a (wing 88–98 mm.) with small, subconical, little-compressed bill, and no frontal crest, but with a deciduous, compressed knob near base of culmen during breeding season.

Bill relatively small, the exposed culmen only about half as long as tarsus, subconical but with culmen distinctly convex, slightly compressed, its width at base of exposed culmen slightly less than its depth at same point; gonys about as long as distance from nostril to tip of maxilla, straight or very faintly convex, ascending terminally, its basal angle moderately prominent; tomia nearly straight, both very slightly notched subterminally; nostril longitudinal, narrowly ovate, overhung by the flaring or reflexed edge of the semi-corneous nasal membrane, which also separates the nostril from the loreal or latero-frontal feathering; mandibular rami feathered nearly to its anterior end, the malar antia about on line (vertically) with middle of nostril, and nearly if not quite as far forward as mental antia; latero-frontal antia about on line (vertically) with posterior end of nostril, the medio-frontal line very slightly receding. Wing rather small, the longest primaries (two outermost) exceeding distal secondaries by decidedly less than half (little more than one-third) the length of wing. Tail about one-third as long as wing, slightly rounded; rectrices 14. Tarsus slightly shorter than middle toe without claw, the acrotarsium reticulate; outer toe (without claw) as long as middle toe (without claw), the inner toe as long as first two phalanges of middle toe.

Nuptial ornaments.—During breeding season, at the base of culmen a small compressed knob, a median outgrowth from the supranasal saddle; forehead and anterior portion of lores with rather short acicular white feathers, besides two lines of elongated acicular white feathers, one originating at the rictus and extending backward between the suborbital and malar regions, the other starting immediately beneath eye and extending backward along upper edge of auricular region.

Coloration.—Above plain blackish, the outermost scapulars intermixed with white, the proximal secondaries tipped with whitish; under parts mostly white, in breeding season more or less spotted or blotched with dusky, this often forming a distinct band across foreneck.

Range.—Coasts and islands of Bering Sea, and southward to Washington and northern Japan. (Monotypic.)

^a Smallest of the *Alcidæ*

CICERONIA PUSILLA (Pallas).

LEAST AUKLET.

Adults in breeding season (sexes alike).—Upper parts slate-blackish (sometimes inclining to glossy black), passing into dark slate color on suborbital and malar regions and chin, the scapulars intermixed with more or less of white, the proximal secondaries (sometimes proximal greater coverts also) more or less distinctly tipped with white; acuminate feathers on forehead and lores, and elongated acicular rictal and auricular plumes white; under parts mostly white, more or less spotted or blotched with blackish or blackish slate, this frequently forming a distinct and uninterrupted band, of variable width, across foreneck, usually in abrupt contrast anteriorly with the immaculate white of throat; axillars and under wing-coverts white and pale gray; bill dusky basally, dark reddish terminally; iris white; legs and feet brownish (pale bluish in life?).

Winter plumage.—Similar to the summer plumage, but under parts, including sides of neck, continuously white, the chin, however, slaty, as in summer; white acicular feathers of forehead, etc., usually less developed, often (in younger birds?) wanting; bill without the knob at base of culmen.

Young.—Similar to the winter adult but bill smaller; no trace of acicular white feathers on head, but with more white on scapulars.

Downy young.—Entirely plain dark sooty grayish brown, the under parts paler and more grayish.

Adult male.—Wing, 90–97.5 (92.9); tail, 25.5–29 (27.1); exposed culmen, 8–9 (8.6); tarsus, 17–19.5 (18.3); middle toe, 20–24 (22.1).^a

Adult female.—Wing, 88.5–96 (93.6); tail, 24.5–29 (27.5); exposed culmen, 7.5–9.5 (8.5); tarsus, 16–19 (18.2); middle toe, 20–23.5 (21.9).^a

Coasts and islands of Bering Sea and contiguous portions of northern Pacific Ocean; breeding on islands in Bering Sea (Diomedé, St. Lawrence, King or Okewuk, and Pribilof islands), and Aleutian chain; in winter, coast of eastern Siberia (Plover Bay; Usuri Bay; Cape Iksurus), Commander Islands, Kuril Islands, northern Japan (Hakodate), Okotsk Sea, and along North American coast as far southward as Washington (Tacoma, winter of 1888); casual or accidental at St. Michaels and Point Barrow, Alaska.

Uria pusilla PALLAS, *Zoogr. Rosso-Asiat.*, ii, 1826, 373, excl. synonymy, pl. 70 (Kamchatka).

Phaleris pusilla CASSIN, in Baird, *Rep. Pacific R. R. Surv.*, ix, 1858, 909; *Proc. Ac. Nat. Sci. Phila.*, 1862, 324 (Bering Straits).—BAIRD, *Cat. N. N. Am. Birds*, 1859, no. 723.—COINDÉ, *Rev. et Mag. de Zool.*, 1860, 403 (St. Paul Island, Pribilofs).—ELLIOT, *Illustr. New and Unfig. N. Am. Birds*, pt. 6, 1867 (vol. ii, 1869), pl. 68 and text.—DALL and BANNISTER, *Trans. Chicago*

^a Ten specimens (mostly from Pribilof Islands, Alaska).

- Ac. Sci., i, 1869, 309 (Alaska; Plover Bay, Siberia).—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, viii, 1880, 179 (Kaga; Hakodate, May); x, 1882, 89.—BLAKISTON, Amend. List Birds Japan, 1884, 31.
- Simorhynchus pusillus* COUES, Proc. Ac. Nat. Sci. Phila., 1868, 48, fig. 12 (monogr.); Check List, 1873, no. 624; 2d ed., 1882, no. 861; in Elliott's Affairs in Alaska, 1875, 208.—BRANDT, Mélang. Biol., vii, 1869, 230.—FINSCH, Abh. Nat. Bremen Ver., iii, 1872, 81 (St. Paul Island, Pribilofs).—ELLIOTT, Mon. Pribylov Group, 1882, 134 (summer resident, breeding; habits).—STEJNEGER, Bull. U. S. Nat. Mus., no. 29, 1885, 34, pl. 4, fig. 3; pl. 5, fig. 5 (Bering Island; crit., measurements, etc.); Proc. U. S. Nat. Mus., x, 1887, 118 (Bering Island); xxi, 1898, 274 (Kuril Islands).—TURNER, Auk, ii, 1885, 159 (Agattu Island, Aleutians, breeding); Contr. N. H. Alaska, 1887, 120 (Kodiak; Aleutians; Pribilofs).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 20.—NELSON, Rep. N. H. Coll. Alaska, 1887, 42 (eastern Aleutians; Pribilofs; St. Michael, 1 spec.; Bering Straits; Diomedé Islands; King or Okewuk Island; habits).—TOWNSEND (C. H.), cruise 'Corwin' in 1885 (1887), 98 (Pribilofs).—PALMÉN, 'Vega'-Exped., v, 1887, 398.—ROADS, Auk, x, 1893, 17 (Puget Sound, near Tacoma, winter 1888).—SEALE, Proc. Ac. Nat. Sci. Phila., 1898, 129 (King Island; St. George Island, Pribilofs).—GRANT, Cat. Birds Brit. Mus., xxvi, 1893, 605 (Hakodate, Japan; Kamchatka; Bering Island; St. Paul and St. George islands, Pribilofs; St. Michaels).—PALMER (W.), Avif. Pribilof Islands, 1899, 387 (extremely abundant, breeding; habits, etc.).
- [*Simorhynchus*] *pusillus* COUES, Key N. Am. Birds, 1872, 343.—SHARPE, Hand-list, i, 1899, 132.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (type of *Minute Auk* Latham, in coll. Liverpool Mus.).
- [*Simorhynchus*] *pusillus* COUES, Key N. Am. Birds, 2d ed., 1884, 808.—RIDGWAY, Man. N. Am. Birds, 1887, 13.
- Ciceronia pusilla* TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri-land, e. Siberia); Orn. Faun. Vost. Sibir., 1877, 74; Bull. Soc. Zool. Franc., 1877, 51.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 760); Nom. N. Am. Birds, 1881, no. 760.—DYBOWSKI, Sitzb. Dorpat. Naturf. Ges., vi, 1882, 161; Orn. Centralbl., 1882, 28; Bull. Soc. Zool. Franc., 1883, 350.—NELSON, Cruise 'Corwin' in 1881 (1883), 116, col. pl. facing p. 57 (Aleutian Islands; islands in Bering Sea).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am. Birds, ii, 1884, 507.
- Fratercula pusilla* SEEBOHM, Birds Japanese Emp., 1890, 287.
- Aethia pusilla* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 357; Check List, 3d ed., 1910, p. 28.—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 8 (Cape Iksurus, e. Siberia, Sept.).
- Aethia pusilla* BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 37 (n. Bering Sea; St. Lawrence Island; Big Diomedé Island; Providence Bay and East Cape, Siberia).
- [*Phalaris*] *corniculata* ESCHSCHOLTZ, Zool. Atlas, iv, 1831, 4 (*nomen nudum*).
- Phalaris microceros* BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 346.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 908.—BAIRD, Cat. N. Am. Birds, 1859, no. 722.—DALL and BANNISTER, Trans. Chicago Ac., i, 1869, 319 (St. George Island, Pribilofs; Plover Bay, Siberia).—HARTING, Proc. Zool. Soc. Lond., 1871, 121 (Bering Straits).
- Simorhynchus microceros* COUES, Proc. Ac. Nat. Sci. Phila., 1868, 46 (monogr.).
- [*Simorhynchus*] *microceros* GRAY, Hand-list, iii, 1871, 98, no. 10788.
- Ciceronia microceros* SAUNDERS, Ibis, 1883, 348.

- Phaleris pygmaea* (not *Alca pygmaea* Gmelin) BRANDT, Bull. Ac. St.-Petersb., ii, 1837, 347.
- Simorhynchus pygmaeus* SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 23.—SEEBOHM, Ibis, 1884, 31 (Hakodate, Japan; crit.).
- Cerorhinca occidentalis?* (not *Cerorhinca occidentalis* Bonaparte) VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 33 (St. Lawrence Island, Bering Sea; crit.).
- Phaleris nodirostra* BONAPARTE, Geog. and Comp. List, 1838, 66 (based on Audubon, pl. 402).
- Phaleris nodirostris* AUDUBON, Orn. Biog., v, 1839, 101, pl. 402, fig. 3 (first description); Synopsis, 1839, 346; Birds Am., 8vo ed., vii, 1844, 255, pl. 468.—GRAY, Gen. Birds, iii, 1848, pl. 175.—REICHENBACH, Natatores, 1850, pl. 6, figs. 2704, 2705; pl. 7, figs. 2224, 2225.
- P[aleris] nodirostris* GRAY, Gen. Birds, iii, 1848, 638.
- Ciceronia nodirostris* REICHENBACH, Natürl. Syst. Vög., 1852, p. iii.
- Mergulus*, sp. inc. BLAKISTON and PRYER, Ibis, 1878, 210.

Genus *ALCELLA* Stone.

Alcella STONE, Auk, xxiv, April, 1907, 198, in text. (Type, by original designation and monotypy, *Alca pygmaea* Gmelin.) (See Allen, Bull. Am. Mus. N. H., xxiii, 1907, 292; xxiv, 1908, 15.)

Small *Phalerinæ* (wing 103.5–116 mm.) with bill small, without obvious deciduous accessory pieces, the culmen strongly convex; adults in breeding season with a long and slender recurved frontal crest, filamentous, recurved superciliary plumes, and elongated filamentous or slenderly acicular plumes from rictus across cheeks and from lower-posterior margin of eye across auricular region.

Bill relatively small and stout, the strongly arched culmen less than half as long as tarsus, its width at frontal antia decidedly less than its depth at same point, and about equal to distance from nostril to tip of maxilla; gonys nearly straight, strongly inclined upward toward tip, about as long as distance from nostril to tip of maxilla, its base forming a prominent angle; maxillary tomium nearly straight except near base, where distinctly recurved, distinctly notched subterminally; mandibular tomium straight, faintly notched terminally; nostril longitudinal, narrowly ovate or nearly linear, in extreme lower edge of nasal fossa, overhung by a broad corneous or semicorneous operculum with reflexed lower edge; frontal antia more anterior than posterior end of nostril (but posterior to middle of the latter), not indented at base of culmen; malar antia nearly on vertical line with posterior end of nostril, the mental antia about on line with middle of nostril. Wing rather small, the longest primaries (two outermost) exceeding distal secondaries by less than half the length of wing. Tail slightly more than three-sevenths as long as wing, slightly double-rounded (the lateral and middle pair of rectrices about equal in length); rectrices 14. Tarsus a little shorter than middle toe without claw, the acrotarsium reticulate; outer toe (without claw) as long as middle toe (without claw), the inner toe as long as first two

phalanges of middle toe; claws relatively large, strongly curved, acute.

Ornamental plumes.—A long and slender, strongly recurved frontal crest, consisting of several (about 7–10) slender, filamentous plumes, inserted in quincunx pattern^a; a triangular loreal area of short acicular white plumes, sending backward two branches, the upper originating at sides of forehead, consisting of very slender, thread-like, greatly elongated recurved plumes, the lower branching from lower portion of loreal region and consisting of broader (acicular) plumes which extend diagonally backward and downward across the malar region, the plumes gradually becoming longer and finally somewhat decurved posteriorly; another series of slender (filamentous) straight white plumes originates immediately beneath posterior portion of eye and extends obliquely backward and downward across auricular region, these also becoming longer posteriorly, where they overhang sides of neck; bill without deciduous accessory pieces, but the upper layers of the corneous covering scale off after the breeding season.^a

Coloration.—Above plain grayish dusky, the under parts paler, fading into very pale gray or grayish white posteriorly; ornamental head-plumes white, except recurved frontal crest, which is blackish.

Range.—Aleutian Islands to northern Japan. (Monotypic.)

ALCELLA PYGMÆA (Gmelin).

WHISKERED AUKLET.

Adults in breeding season (sexes alike).—Upper parts plain grayish dusky (nearest dark neutral gray), darkest on pileum and sides of head, more slaty on scapulars, rump, and upper tail-coverts, gradually passing into dusky gray (between chætura drab and dark quaker drab) on chin, throat, and foreneck, this passing through dull neutral gray on chest into white on anal region and under tail-coverts; under wing-coverts wholly grayish brown (hair brown); ornamental head-plumes white, except the recurved frontal crest, which is dull blackish and grayish dusky; bill bright red (blood red to scarlet), its tip and a narrow space round base of mandible whitish; iris white; legs and feet bluish gray, tinged with violet, the joints darker gray, the webs and soles blackish.^b

Winter plumage.—Not materially different from the breeding plumage (all the ornamental plumes being retained), but color of bill duller, the nasal cuirass being dusky instead of red.

^a See Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 26–29.

^b For more detailed description of the fresh colors of unfeathered parts in this species see Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 30, 31.

Young.—Similar in coloration to adults but lacking the ornamental head plumes or else having them very slightly developed; bill smaller, much duller in color (dusky).

Downy young.—Plain sooty grayish brown, paler on under parts, especially on abdomen.

Adult male.—Wing, 104–111 (107.2); tail, 27.5–34 (29.9); exposed culmen, 7–10 (8.3); depth of bill at gonydeal angle, 7–7.5 (7.1); tarsus, 19.5–23 (20.9); middle toe, 22–25 (24.1).^a

Adult female.—Wing, 103.5–116 (109.1); tail, 27–30.5 (28.9); exposed culmen, 9; depth of bill at gonydeal angle, 7–7.5 (7.4); tarsus, 20–21 (20.4); middle toe, 24–24.5 (24.1).^b

Aleutian Islands, Alaska (as far eastward as Unalaska), Commander Islands, Kamchatka, and Kuril Islands, breeding; in winter southward to northern Japan; St. Lawrence Island, Bering Sea?

[*Alca pygmaea* GMELIN, Syst. Nat., i, pt. ii, 1789, 555 ("Bird Island, between Asia and America"; based on *Pygmy Auk* Pennant, Arctic Zool., ii, 1785, 513).

Alca pygmaea LICHTENSTEIN, Verz. Doubl., 1823, 89, in text.

P[haleria] pygmaea GRAY, Gen. Birds, iii, 1848, 638.

Simorrhynchus pygmaeus BRANDT, Mélang. Biol., vii, 1869, 228.—RIDGWAY, Proc.

U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 749); Nom. N. Am. Birds, 1881, no. 749.—COUES, Check List, 2d ed., 1882, no. 860.—NELSON, Cruise "Corwin" in 1881 (1883), 116 (Aleutian Islands); Rep. N. H. Coll. Alaska, 1887, 42 (Nearer Islands, Aleutian chain, breeding but not wintering; Commander Islands, Kamchatka, breeding).—STEJNEGER, Naturen, 1884, 35, 55; Bull. U. S. Nat. Mus., no. 29, 1885, pl. 4, figs. 1, 2, pl. 5, figs. 3, 4 (Commander Islands); Proc. U. S. Nat. Mus., x, 1887, 118 (Commander Islands); xxi, 1898, 274 (Kuril Islands, breeding).—TURNER, Auk, ii, 1885, 159 (Attu Island, Aleutians, breeding); Contr. N. H. Alaska, 1886, 120, pl. 1

^a Seven specimens.

^b Four specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Depth of bill at base of gonyx.	Tar- sus.	Middle toe.
MALES.						
Two adult males from Alaska (Unalaska and Atka islands).....	104.5	27.7	9	7	19.7	22.7
Four adult males from Commander Islands, Kam- chatka.....	107.6	30.6	7.7	7	20.9	24.5
One adult male from Kuril Islands.....	111	31	9.5	7.5	23	25
FEMALES.						
One adult female from Copper Island, Commander group.....	103.5	27	9	7.5	20	24.5
Two adult females from Bering Island, Commander group.....	108.5	29	9	7.2	20.2	24
One adult female from Kuril Islands.....	116	30.5	9	7.3	20.5	24

- (Atka Island, Aleutians, breeding; descr. and col. pl. summer plumage).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 19.—TACZANOWSKI, Mém. Ac. St. Pétersb., xxxix, 1893, 1235 (e. Siberia).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 603 (Kamchatka; Ushsir, Kuril Islands; Copper Island; etc.).
- S[imorhynchus] pygmaeus* COUES, Key N. Am. Birds, 2d ed., 1884, 808.—RIDGWAY, Man. N. Am. Birds, 1887, 13.
- [*Simorhynchus*] *pygmaeus* SHARPE, Hand-list, i, 1899, 132.—FORBES and ROBINSON, Bull. U. S. Nat. Mus., ii, no. 2, 1899, 53 (Kuril Islands).
- Fratercula pygmaea* SEEBOHM, Birds Japanese Emp., 1890, 286.
- Aethia pygmaea* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 357; Check List, 3d ed., 1910, p. 28.
- [*Alca*] *pygmaea* LATHAM, Index Orn., ii, 1790, 796.
- [*Alca*] *pygmaea* BONNATERRE, Tabl. Enc. Méth., i, 1790, 33.
- [?] *Alca pygmaea* VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 383.
- Phaleris?* *pygmaea* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 48.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 510.
- Alca kamtschatica* LEFÉCHIN, Nova Acta Petrop., xii, 1801, 869, pl. 8 (= adult)
- Simorhynchus kamtschaticus* BUREAU, Bull. Soc. Zool. France, iv, 1879, 60, pl. 6.
- Simorhynchus kamtschaticus* DYBOWSKI, Sitzb. Dorpat. Naturf. Ges., vi, 1882, 173.
- Phaleris kamtschatica* BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 347.—REICHENBACH, Natatores, 1850, pl. 6, figs. 2701, 2702.—BAIRD, Cat. N. Am. Birds, 1859, no. 721.—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 156 (monogr.).—BLAKISTON, Amended List Birds Japan, 1884, 31.
- Phaleris kamtschaticus* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 908.
- Simorhynchus kamtschaticus* SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 25.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 41, fig. 8 (monogr.); Check List, 1873, no. 623.—BRANDT, Mélang. Biol., vii, 1869, 227.—FINSCH, Abh. Nat. Bremen Ver., iii, 1872, 81 (Unalaska).—TACZANOWSKI, Orn. Faun. Vost. Sibir., 1877, 74; Bull. Soc. Zool. France, ii, 1877, 82.—DYBOWSKI, Orn. Centralbl., 1882, 41; Bull. Soc. Zool. France, vii, 1882, 298, viii, 1883, 349.—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. France, ix, 1884, 147.
- [*Simorhynchus*] *kamtschaticus* COUES, Key N. Am. Birds, 1872, 342.
- Uria crinita* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 301 (*nomen nudum*).
- Uria mystacea* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 372, pl. 89 (Kuril Islands; Alaska; etc.).
- Phaleris mystacea* CASSIN, in Perry's Exped. Japan, ii, 1857, 234.—[CABANIS], Journ. für Orn., 1858, 448.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 331 (Sea of Okotsk).—BLAKISTON and PRYER, Ibis, 1878, 210, part; Trans. Asiat. Soc. Japan, viii, 1880, 179; x, 1882, 89.
- Mormon cristatella* (not *Alca cristatella* Pallas, 1769) CUVIER, in Choriz' Voy. Pittor., Aléout., 1822, 18, pl. 12 (St. Lawrence Island, Bering Sea).
- Alca cristatella* VIEILLOT, Gal. Ois., ii, 1825, 242, pl. 297.
- Phaleris cristatella* TEMMINCK, Pl. Col., v, 1824, pl. 122 [no. 200] and text.—SCHINZ, Nat. Abbild. Vög., 1836, 374, pl. 130.
- Phaleris cristella* BOIE, Isis, 1826, 980.
- Mormon superciliosa* LICHTENSTEIN, Verz. Doubl., 1823, 89, in text.
- Simorhynchus cassini* COUES, Proc. Ac. Nat. Sci. Phila., 1868, 45, fig. 10 (Ounimak Pass, Unalaska Island, Alaska; coll. U. S. Nat. Mus.; =young).—BRANDT, Mélang. Biol., vii, 1869, 235.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309.—BAIRD, Trans. Chicago Ac. Sci., i, 1869, 324, pl. 31.

Genus *ÆTHIA* Merrem.

Aethia ^a MERREM, Verz. Grundr. Allg. Gesch. u. Nat. Eintheil. d. Vög., i, Tentamen Nat. Syst. Av., i, 1788, pp. 7, 13, 20. (Type, by monotypy, *Alca cristatella* Pallas. See Hartert, Novit. Zool., xxiii, 1916, 340.)

Simorhynchus MERREM, in Ersch u. Gruber's Encycl., 1 sec. ii, 1819, 405. (Type, by original designation and monotypy, *Alca cristatella* Pallas.)

Tyloramphus BRANDT, Bull. Acad. St. Pétersb., ii, 1837, 348. (Type, *Alca cristatella* Pallas.)

Medium-sized Phalarinæ (wing 125–143 mm.) with exposed culmen less than half as long as commissure and not longer than gonys; adults with a slender recurved frontal crest and line of postocular acicular plumes, and in breeding season a conspicuous concave supra-rietal horny plate and conspicuous enlargement of the mandibular rami.

Bill short and stout, its depth from base of exposed culmen to gonydeal angle much greater than its width at same point and at least equal to length of exposed culmen, the latter strongly curved; gonys as long as or longer than exposed culmen, faintly convex, ascending terminally, its basal angle more or less prominent; maxillary tomium strongly convex basally, distinctly incised terminally, the tip of maxilla distinctly uncinate; mandibular tomium nearly straight in middle portion, recurved terminally, recurved and arched basally, the tip of mandible recurved, with tip obliquely truncate; mandibular rami mostly unfeathered (wholly so in breeding season), equal to or longer than gonys; nostril longitudinal, narrowly ovate (its anterior end acute), overhung in breeding season by the lower edge of a prominent supra-nasal saddle or cuirass; anterior line of frontal feathering extending almost straight across base of culmen, nearly on line (vertically) with middle of nostrils, the mental antia slightly posterior to it. Wing moderate, the longest primary (outermost) exceeding distal secondaries by slightly less than half the length of wing. Tail about three-sevenths as long as wing, slightly rounded; rectrices 14. Tarsus decidedly shorter than middle toe without claw, the acrotarsium reticulate; outer toe (without claw) as long as middle toe (without claw), the inner toe as long as first two phalanges of middle toe; claws rather small, only moderately curved and acute.

Nuptial ornaments.—A conspicuous supra-rietal horny plate, with concave surface; mandibular rami conspicuously enlarged, and supra-nasal saddle or cuirass prominent and corneous.

Plumage and coloration.—Adults with a conspicuous frontal strongly recurved crest of slender, elongated feathers (much as in *Alcella*) and with a narrow line of slender acicular white feathers

^a *Albua*, a sea-bird of some kind. (Richmond.)

originating immediately beneath eye and extending downward and backward along upper edge of auricular region. Upper parts dull slate-blackish, under parts plain brownish gray.

Range.—Kodiak Island, Aleutian Islands, and islands of Bering Sea to northern Japan. (Monotypic.)

ATHIA CRISTATELLA (Pallas).

CRESTED AUKLET.

Adults in breeding season.—Upper parts, including recurved frontal crest, plain slate-blackish; forehead and entire under parts plain brownish gray, paler on posterior under parts; narrowly acicular auricular plumes white; bill, including supra-rietal plate, orange-red or reddish orange, the tip more or less whitish or pale horn color; iris white; legs and feet pale violet-gray (in life), the joints darker, webs blackish, and soles black.

Winter plumage.—Similar in coloration to the breeding plumage, but bill smaller (through shedding of supra-nasal cuirass, supra-rietal plate, and other parts, and dull brownish or horn color instead of reddish orange.

Young.—Similar to winter adults, but crest and auricular plumes absent or but slightly developed, and bill still smaller.

Downy young.—Uniform sooty grayish brown, slightly paler below.

Adult male.—Wing, 125–143 (134.8); tail, 33–38 (35.7); exposed culmen, 10–12 (11.2); greatest depth of bill, 10–12 (11.1); tarsus, 24–28 (26.4); middle toe, 29.5–35.5 (33.1).^a

Adult female.—Wing, 131–137 (134); tail, 31–39 (34.5); exposed culmen, 10.5–11.5 (10.9); greatest depth of bill, 9.5–12 (10.5); tarsus, 25–27 (25.8); middle toe, 30–34 (32.2).^b

Coasts and islands of Bering Sea and immediately contiguous portions of Arctic and northern Pacific Oceans, from Wrangel, Herald, and Diomed Islands and eastern coast of Siberia (Emma Harbor; Plover Bay), etc., to Kodiak Island and northern Japan; breed-

^a Ten specimens.

^b Seven specimens.

Locality.	Wing.	Tail.	Ex- posed culmen.	Great- est depth of bill.	Tarsus.	Middle toe.
MALES.						
Nine adult males from Alaska.....	135.1	35.6	11.2	10.9	26.3	33
One adult male from Bering Island, Kamchatka.....	133	36.5	12	13	27	34
FEMALES.						
Five adult females from Alaska.....	133.8	33.9	10.9	10.2	25.9	32.7
One adult female from eastern Siberia (Emma Harbor).....	136	39	11	10.5	25	32
One adult female from Bering Island.....	133	33	11	12	26	30

ing on Pribilof, Aleutian, Commander, and Kuril (probably also on other) Islands; accidental in Sweden and Massachusetts (Chatham, winter of 1884-5)?

Alca cristatella PALLAS, Spicil. Zool., v, 1769, 18, pl. 3, and pl. 5, figs. 7, 8, 9 (Yesso, Japan, to Kamchatka).—VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 382.

[*Alca*] *cristatella* GMELIN, Syst. Nat., i, pt. ii, 1789, 552.—LATHAM, Index Orn., ii, 1790, 794.—BONNATERRE, Tabl. Enc. Méth., i, 1790, 34, pl. 11, fig. 3.

Uria cristatella PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 370, pl. 86.

Phalaris cristatella STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 47.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 428, footnote.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 536.—VIGORS, Zool. Voy. 'Blossom,' Birds, 1839, 33 (St. Lawrence Island, in Avatcha Bay).—AUDUBON, Orn. Biog., v, 1839, 102, pl. 402, fig.; Synopsis, 1839, 346; Birds Am., 8vo ed., vii, 1844, 253, pl. 467.—REICHENBACH, Natatores, 1850, pl. 7, figs. 2222, 2223.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 906.—BAIRD, Cat. N. Am. Birds, 1859, no. 719.—SCHRENCK, Reis. Amur-land, i, 1859, 500, pl. 16, figs. 4, 5.—COINDÉ, Rev. et Mag. de Zool., 1860, 402 (St. Paul Island, Pribilofs).—SWINHOE, Proc. Zool. Soc. Lond., 1863, 330 (Amoor-land).—WHITELY, Ibis, 1867, 209 (Hakodate, Japan).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Kodiak Island).—HARTING, Proc. Zool. Soc. Lond., 1871, 121 (Bering Straits).—ORTON, Am. Nat., iv, 1871 (type of Audubon's descr. and plate in coll. Mus. Vassar College).—DALL, Proc. Calif. Ac. Sci., v, 1873, 34, 280 (Aleutian Islands).—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 155 (monogr.).—ADAMS, Ibis, 1878, 442 (St. Michael, Alaska).—SEEBOHM, Ibis, 1879, 21 (Japan).—DALGLEISH, Bull. Nutt. Orn. Club, v, 1880, 221 (Swedish records).—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, viii, 1880, 179; x, 1882, 89.—PALMÉN, Swed. Cat. Lond. Fish. Exhib., 1883, 201.—BLAKISTON, Amend. List. Birds Japan, 1884, 31.

Tyloramphus cristatellus BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 348.—TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri-land, e. Siberia).

Phalaris (*Tyloramphus*) *cristatella* DALL, Proc. Calif. Ac. Sci., v, 1873, 34 (Unalaska; Shumagins, resident).

Tyloramphus cristatellus GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 153.

Simorhynchus cristatellus BONAPARTE, Compt. Rend., xlii, 1856, 744.—SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 25.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 37, fig. 7 (monogr.); Check List, 1873, no. 622; 2d ed., 1882, no. 859; in Elliott's Affairs in Alaska, 1875, 206 (Pribilof Islands).—BRANDT, Mélang. Biol., vii, 1869, 223.—FINSCH, Abh. nat. Ver. Bremen, iii, 1872, 81 (St. George Island, Pribilofs; Kamchatka).—TACZANOWSKI, Orn. Faun. Vost. Sibir., 1877, 74; Bull. Soc. Zool. Franc., ii, 1877, 51 (Abrek Bay); vii, 1882, 398 (Kamchatka); Mém. Ac. St. Petersb., xxxix, 1893, 1231 (e. Siberia).—BUREAU, Bull. Soc. Zool. Franc., iv, 1879, 51, pl. 5, figs. 3-5.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 748); Nom. N. Am. Birds, 1881, no. 748.—ELLIOTT, Monogr. Pribylov Group, 1882, 134 (summer resident, breeding; habits).—DYBOWSKI, Sitzb. Dorpat. Naturf. Ges., 1881, —; Orn. Centralbl., 1882, 28; Bull. Soc. Zool. France, viii, 1883, 349.—SEEBOHM, Ibis, 1882, 368 (Kuril Islands).—BEAN, Proc. U. S. Nat. Mus., v, 1882, 171 (Bering Straits).—NELSON, Cruise 'Corwin' in 1881 (1883), 116 (Aleutian Islands to Diomed Islands and Bering Straits; Herald Island; Wrangel Island; etc.); Rep. N. H. Coll. Alaska, 1887, 41 (Nearer Islands, Aleutians, breeding but not wintering; off St. Lawrence

- Island; off mouth of Yukon River; islands in Bering Straits; St. Mathews Island; Diomedé Island; Pribilofs; habits).—STEJNEGER, cruise 'Corwin' 1884 (1889), 126, pl. [2] (Otter Island, Bering Sea); Bull. U. S. Nat. Mus., no. 29, 1885, 32, pl. 4, figs. 4, 5; pl. 5, fig. 2 (Commander Islands); Proc. U. S. Nat. Mus., x, 1887, 13 (Commander Islands); xxi, 1898, 274 Kuril Islands, breeding).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 512.—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. France, ix, 1884, 147.—TURNER, Auk, ii, 1885, 159 (Attu Island, Aleutians, breeding); Contr. N. H. Alaska, 1886, 119 (St. Michael, 2 specs.; Bristol Bay; north side Alaska Peninsula; Aleutian Islands).—ALLEN, Auk, ii, 1885, 388 (Chatham, Massachusetts, 1 spec., winter of 1884-5; very doubtful record!).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 18.—TOWNSEND (C. H.), cruise 'Corwin' in 1885 (1887), 98 (Pribilof Islands; Otter Island).—PALMÉN, 'Vega'-Exped., v, 1887, 397.—SEALE, Proc. Ac. Nat. Sci., Phila., 1898, 128 (King Island).—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 601.—PALMER (W.), Avif. Pribilof Is., 1899, 386 (abundant, breeding; habits).
- [*Simorhynchus*] *crisatellus* GRAY, Hand-list, iii, 1871, 97, no. 10781.—COUES, Key N. Am. Birds, 1872, 342.—SHARPE, Hand-list, i, 1899, 132.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (Kamchatka; off n. e. coast Japan, lat. 40° N., long. 142° E.).
- [*Simorhynchus*] *crisatellus* COUES, Key N. Am. Birds, 2d ed., 1884, 807.—RIDGWAY, Man. N. Am. Birds, 1887, 13.
- Fratercula cristatella* SEEBOHM, Birds Japanese Emp., 1890, 285 (Kuril Islands, breeding; e. coast Japan, 150-miles s. of Yezo; e. coast, lat. of Yokohama).
- Aethia cristatella* MERREM, Vers. Grundr. Allg. Gesch. u. Nat. Eintheil. d. Vög., i, Tentamen Nat. Syst. Av., 1788, 13, 20.—THAYER and BANGS, Proc. New Engl. Zool. Clubs, v, 1914, 8 (off Cape Ikusurin, e. Siberia, Sept.).—BROOKS (W. S.), Bull. Mus. Comp. Zool., lix, 1915, 370 (St. Lawrence Island, June 3; Providence Bay and Bering Strait).
- Aethia cristatella* AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, xxv, July, 1908, 357; Check List, 3d ed., 1910, p. 28.—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 31 (near Unalaska; Atka, Attu, and Agattu islands, Aleutians; Commander Islands; coast Kamchatka to Cape Lopatka; Kuril Islands).
- Alca tetracula* PALLAS, Spicil. Zool., fasc. v, 1769, 23, pls. 4, 5, figs. 10-12 (Kamchatka).—BONNATERRE, Tabl. Enc. Méth., i, 1790, 34, pl. 11, fig. 4.—VIEILLOT, Nouv. Dict. d'Hist. Nat., i, 1816, 383 (Kamchatka).—KITTLITZ, Denkw. Reise, ii, 1858, 214.
- [*Alca*] *tetracula* GMELIN, Syst. Nat., i, pt. ii, 1789, 552.—LATHAM, Index Orn., ii, 1790, 794.—LICHTENSTEIN, Verz. Doubl., 1823, 89, in text.
- Aethia tetracula* MERREM, Vers. Grundr. Allg. Gesch. u. Nat. Eintheil. a. Vög., i, Tentamen Nat., Syst. Av., 1788, 7.
- Uria tetracula* PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 371, pl. 58.
- Phalaris tetracula* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 46.—REICHENBACH, Natatores, 1850, pl. 6, fig. 2703.—MIDDENDORFF, Sibir. Reise, ii, pt. ii, 1851, 239.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 907.—BAIRD, Cat. N. Am. Birds, 1859, no. 720.—ELLIOT, Illustr. New and Unfig. N. Am. Birds, pt. 3, 1867 (vol. ii), pl. 67 and text.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Plover Bay, e. Siberia).—TACZANOWSKI, Orn. Faun. Vost. Sibir., 1877, 74; Bull. Soc. Zool. France, ii, 1877, 52.
- Simorhynchus tetraculus* COUES, Proc. Ac. Nat. Sci., Phila., 1868, 43, fig. 9 (monogr.).—TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 52.

[*Simorhynchus*] *tetraculus* GRAY, Hand-list, iii, 1871, 97, no. 10782.—COUES, Key N. Am. Birds, 1872, 342.

Alca cristata MÜLLER, Natursyst., Suppl., 1776, 104.

Simorhynchus cristatus MERREM, in Ersch u. Gruber's Encycl., ii, 1819, 406.

Uria dubia PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 371, pl. 87 (=young).

Phaleris dubia BRANDT, Bull. Ac. St. Petersb., ii, 1837, 347.

P[haleris] dubia GRAY, Gen. Birds, iii, 1848, 638.

Alca dubia KITTLITZ, Denkw. Reise, i, 1858, 300 (St. Paul Island, Pribilof group).

Symorhynchus dubius COUES, Proc. Ac. Nat. Sci. Phila., 1868, 40 (monogr.).

Phaleris superciliosa (not *Mormon superciliosa* Lichtenstein) BONAPARTE, Geog. and Comp. List, 1838, 66.

Phaleris superciliata AUDUBON, Birds Amer., folio ed., 1838, pl. 402, fig.

Phaleris mystacea (not *Uria mystacea* Pallas) BLAKISTON and PRYER, Ibis, 1878, 210, part (Kuril Islands; Shimoda and Tokyo Bay, Japan).—SEEBOHM, Ibis, 1879, 21.

Genus CERORHINCA Bonaparte.

Cerorhinca BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1828, 427. (Type *C. occidentalis* Bonaparte=*Alca monocerata* Pallas.)

Ceratorrhina (emendation) BONAPARTE, Oss. Règne Anim., 1830, 134; Saggio, 1831, 62.

Ceratorrhina (emendation) AUDUBON, Orn. Biog., v, 1839, 104.

Cerorhinca (emendation) BRANDT, Bull. Sci. St. Petersb., ii, 1837, 348.

Ceratorhynchus (emendation) SUNDEVALL, Orn. Syst., 1836, 130.

Ceratorhyncha BONAPARTE, Geog. and Comp. List, 1838, 66.

Chimerina ESCHSCHOLTZ, Zool. Atlas, iii, 1829, 2, pl. 12. (Type, *C. cornuta* Eschscholtz=*Alca monocerata* Pallas.)

Large Phalerinæ (wing 169–183 mm.) with relatively long bill (the distance from nostril to tip of maxilla nearly if not quite equal to length of tarsus), with 16–18 rectrices, and adults in breeding season with a conspicuous vertical compressed knob at base of culmen.

Bill, from rictus, nearly as long as head, much compressed, its width at anterior end of nostrils only about half its depth at same point and equal to not more than one-third the distance from nostril to tip of maxilla; culmen, from anterior edge of supra-nasal horn or saddle, decidedly shorter than tarsus, but more than half as long as commissure, strongly and regularly curved; gonys shorter than distance from nostril to tip of maxilla, faintly concave, its basal angle very prominent; maxillary tomium faintly convex sub-basally, decidedly concave distally, distinctly notched near uncinate tip of maxilla; mandibular tomium slightly but distinctly convex distally, distinctly notched near tip of mandible; nostril longitudinal, slit-like in extreme lower edge of nasal fossa, or in breeding season beneath lower edge of the corneous nasal cuirass; frontal antia about on line (vertically) with posterior end of nostril, the mental antia about on line with middle of nostril, the indistinct malar antia (at lower edge of ramus) about on line with frontal antia, or slightly posterior to it.

Wing moderate, the longest primaries (two outermost) exceeding distal secondaries by slightly more than half the length of wing. Tail less than one-third (but more than three-sevenths) as long as wing, slightly but distinctly rounded; rectrices 16-18. Tarsus much shorter than middle toe without claw, reticulate for greater part but with obliquely transverse scutella on lower half of acrotarsium; outer toe (without claw) as long as middle toe (without claw) or very slightly shorter, the inner toe as long as first two phalanges of middle toe; claws moderate or rather small, slightly curved, rather blunt.

Nuptial ornaments.—A prominent compressed obtusely conical knob or horn at base of culmen, surmounting the corneous nasal cuirass, of which it is part.

Plumage and coloration.—Adults with two series of elongated narrowly lanceolate white plumes, one originating at posterior angle of eye and extending backward to side of nape, the other starting at rictus and extending back beneath suborbital and auricular regions to or beyond posterior end of the latter. Upper parts sooty blackish fading into brownish gray on chin, throat, foreneck, chest, sides and flanks, the remaining under parts white.

Range.—Coasts and islands of northern Pacific Ocean, from California to northern Japan. (Monotypic.)

CERORHINCA MONOCERATA (Pallas).

RHINOCEROS AUKLET.

Adults in breeding season (sexes alike).—Upper parts sooty blackish, the scapulars, interscapulars, and feathers of rump indistinctly tipped with dark sooty grayish; sides of head deep hair brown (or between hair brown and fuscous), passing gradually into lighter hair brown or mouse gray on malar region; chin, throat, chest, sides, and flanks white, more or less clouded with brownish gray, especially on breast, the posterior under tail-coverts brownish gray; axillars and under wing-coverts uniform brownish gray, like sides and flanks; a line of straight, elongated, lanceolate white feathers originating at posterior angle of eye and extending backward along sides of occiput to nape, and another broader series starting at rictus and extending backward beneath suborbital and auricular regions to or beyond posterior end of the latter; bill orange-yellow or dull orange (in life) with culmen and both anterior and posterior edges of the hornlike supra-nasal appendage black; iris brown^a or pale amber;^b legs and feet whitish yellow (in life), darker on joints of toes, the planta tarsi and soles blackish.^b

^a W. A. Cooper, manuscript.

^b P. A. Holst, according to Grant.

Winter plumage.—Coloration as in summer, including white head-plumes, but corneous supranasal horn and gonydeal ridge wanting, the former, however, indicated (at least in freshly killed specimens) by a more or less pronounced swelling, covered by membrane.^a

Young.—Similar to winter adults, but white head-plumes wanting and bill smaller and darker in color.

Downy young.—Uniform sooty grayish brown, slightly paler on under parts of body. (Very similar to the corresponding stage of *Lunda cirrhata* but rather lighter in color and with more slender bill.)

Adult male.—Wing, 175–183 (177.8); tail, 42.5–60.5 (55); exposed culmen, 32.5–36 (34); tarsus, 27–30 (28.2); middle toe, 39.5–43 (40.4).^b

Adult female.—Wing, 169–181 (175.6); tail, 52–56.5 (55.5); exposed culmen, 32–39 (34.7); tarsus, 27–29 (28); middle toe, 38–41.5 (39.9).^b

Coasts and islands along border of northern Pacific Ocean; breeding from Sitka, Alaska, southward to Washington (Smiths Island, Puget Sound; Protection Island), formerly to Farallon Islands, California, and on Kuril Islands;^c southward in winter to southern California (Santa Barbara; San Diego, Dec., Jan.; Santa Catalina Island, Dec., March), Lower California (San Miguel Island; Cerros Island, June), and northern Japan (Hakodate; Tsushima; Otarunai, near Sapporo; Nagasaki), and southeastern Siberia (Usuri Bay; Vladivostok).

Alca monocerata PALLAS, Zoogr. Russo-Asiat., ii, 1826, 362 (Cape St. Elias to Kodiak Island, Alaska).

Chimerina monocerata REICHENBACH, Natatores, 1850, pl. 6, figs. 2706, 2707.

^a See Henshaw, Auk, ii, 1885, 387, 388.

^b Six specimens.

Locality.	Wing.	Tail.	Ex- posed cul- men.	Tarsus.	Middle toe.
MALES.					
Two adult males from California.....	177.5	58	33	27.5	38.5
Two adult males from Alaska.....	176.5	56.7	33.7	28	40.5
One adult male from Kuril Islands.....	183	58	36	30	43
One adult male from Japan.....	176	42.5	34.5	28	38.5
FEMALES.					
One adult female from California.....	178	53.5	37	29	41.5
One adult female from Puget Sound.....	177	53	33	29	41
Three adult females from Alaska.....	173	55	33.2	27	39
One adult female from Japan.....	176	52.5	39	29	40

^c Almost certainly breeding on some of the intervening islands also.

- Ceratorhyncha monocerata* CASSIN, in Rep. Perry's Exped. Japan, ii, 1857, 233 Rep. U. S. Expl. Exped. (Wilkes), Orn., 1858, 349.—[CABANIS], Journ. für Orn., 1858, 448.—WHITELY, Ibis, 1867, 209 (Hakodate, Japan).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 28 (monogr.).—SWINHOE, Ibis, 1874, 166 (Hakodate).—BLAKISTON and PRYER, Ibis, 1878, 211 (Yezo, Japan); Trans. Asiat. Soc. Japan, x, 1882, 92.
- [*Ceratorhyncha*] *monocerata* SHARPE, Hand-list, i, 1899, 132.
- Cerorhina monocerata* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 905.—BAIRD, Cat. N. Am. Birds, 1859, no. 717.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 284 (Straits of Fuca, Puget Sound, and Port Townsend, Washington; Protection Island, Washington, breeding; Farallon Islands).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Sitka).—TACZANOWSKI, Journ. für Orn., 1876, 203 (Usuri, e. Siberia). BOLAU, Journ. für Orn., 1882, 341 (Vladivostok, e. Siberia).—
- [*Cerorhina*] *monocerata* GRAY, Hand-list, iii, 1871, 97, no. 10779.
- Simorhynchus monoceratus* SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 26.
- Ceratorhina monocerata* BRANDT, Mélang. Biol., vii, 1869, 239.—COUES, Check List, 1873, no. 620; 2d ed., 1882, no. 857.—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 620); Nom. N. Am. Birds, 1881, no. 620.—HENSEHAW, Auk, ii, 1885, 387 (Santa Barbara and San Diego, California, Nov., Dec.; as to molting of knob or horn of bill).—TACZANOWSKI, Mém. Ac. St. Pétersb., xxxix, 1893, 1241 (e. Siberia).
- [*Ceratorhina*] *monocerata* COUES, Key N. Am. Birds, 1872, 341.
- [*Ceratorhina*] *monocerata* COUES, Key N. Am. Birds, 2d ed., 1884, 805.
- Cerorhyna monocerata* TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 52.
- Cerorhyncha monocerata* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 520.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 609 (Tsushima, Nagasaki, and Hakodate, Japan; Kuril Islands; Kamchatka; Monterey and San Diego, California; Jan., Dec.; San Miguel Island, Lower California).
- [*Cerorhyncha*] *monocerata* FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (Hakodate, Japan).
- Cerorhinca monocerata* AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 15; 3rd ed., 1910, p. 27.—STERNER, Bull. U. S. Nat. Mus., no. 29, 1885, 314 (Kamchatka); Proc. U. S. Nat. Mus., x, 1887, 118 (Commander Islands), xxi, 1898, 274 (Kuril Islands, breeding).—NELSON, Rep. N. H. Coll. Alaska, 1887, 40 (Sitka).—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., ii, 1889, 250 (Cerro Island, Lower California, Jan.).—LOOMIS, Proc. Calif. Ac. Sci., 2d ser., vi, 1896, 16 (California).—GRINNELL (J.), Pub. 2, Pasadena Ac. Sci., 1898, 6 (Santa Catalina Island, California, Dec., March; Newport Bay, winter); Auk, xv, 1898, 124 (Sitka); Pacific Coast Avif., no. 11, 1915, 18 (south to San Diego in winter; formerly breeding on Farallon Islands).—LINTON, Condor, x, 1908, 125 (Santa Cruz Island, California).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 31 (Atka and Agattu Islands, Aleutians; northern Kurils, south to Kamushir).
- [*Cerorhinca*] *monocerata* RIDGWAY, Man. N. Am. Birds, 1887, 12.
- Cerorhinca monocerata* EVERMANN, Auk, iii, 1886, 88 (Ventura Co., California, Jan.).
- Fratercula monocerata* BARROWS, Proc. Bost. Soc. N. H., xix, 1877 154 (monogr.).
- Phaleris cerorhynca* BONAPARTE, Zool. Journ., iii, 1827, 53 (w. coast N. America).
- [*Cerorhina*] *cerorhynca* BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1828 (Synopsis), 451.

- Cerorhina occidentalis* BONAPARTE, Ann. Lyc. Nat. Hist. N. Y., ii, 1828, 428 ("western coast of America"; cites "Am. Orn., iv, pl.").—LESSON, Traité d' Orn., 1831, 641.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 538.
- Ceratorrhina occidentalis* AUDUBON, Birds Am., fol. ed., pl. 402, fig. 5.
- Ceratorhyncha occidentalis* AUDUBON, Orn. Biog., v, 1839, 104.—BONAPARTE, Geog. and Comp. List. 1833, 66.—RIDGWAY, Cat. Aquatic and Fish-eating Birds, 1883, 40.
- Uria occidentalis* AUDUBON, Synopsis, 1839, 349; Birds Am., 8vo. ed., vii, 1844, 264, pl. 471.
- [*Cerorhina*] *occidentalis* GRAY, Gen. Birds, iii, 1848, 639.
- Chimerina cornuta* ESCHSCHOLTZ, Zool. Atlas, Heft iii, 1828, 2, pl. 12.—BUREAU, Bull. Soc. Zool. France, iv, 1879, 43, pl. 4.—DYBOWSKI, Orn. Centralbl., 1882, 28 (Kamchatka).
- Cerorhina orientalis* [lapsus for *occidentalis*?] BRANDT, Bull. Ac. St. Pétersb., ii, 1837, 348.
- [?] *Alca torda* (not of Linnaeus) TEMMINCK and SCHLEGEL, Fauna Japonica, Aves, 1842, 125.
- Cerorhina suckleyi* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 906 (Fort Steilacoom, Washington; coll. U. S. Nat. Mus.; = adult without knob on bill).—BAIRD, Cat. N. Am. Birds, 1859, no. 718.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 284 (Fort Steilacoom; crit.).
- Sagmatorrhina suckleyi* COUES, Proc. Ac. Nat. Sci. Phila., 1868, 32, figs. 4, 5 (monogr.).

Genus FRATERCULA Brisson.

- Fratercula* BRISSON, Orn., vi, 1760, 81. (Type, *Alca arctica* Linnaeus.)
- Mormon* ILLIGER, Prodr. Orn., 1811, 283. (Type, *Alca arctica* Linnaeus.)
- Larva* VIEILLQF, Analyse, 1816, 67. (Type, *Macareux* = *Alca arctica* Linnaeus.)
- Puffinus*^a (not of Brisson) "Will[ughby]" S. D. W., Analyst, iii, no. xiv, Jan., 1836, 211. (Type, *P. flavirostris* S. D. W. = *Alca arctica* Linnaeus.)

Large Fraterculinæ (wing 153–188 mm.) with the deciduous supra-nasal saddle diminishing in width toward culmen, its anterior outline convex; basal lamina of bill of equal width throughout or slightly wider above than below; maxillary grooves convex anteriorly; eyelids with horny appendages; head without ornamental plumes, and under parts white.

Bill extremely deep and compressed, its depth at base much more than twice its width at same point and greater than its length from rictus; culmen arched (sometimes from extreme base), much longer than middle toe without claw; gonys convex proximally, straight or sometimes even slightly concave distally, much longer than tarsus; tomia straight to very near tip, that of maxilla decurved terminally (the tip of maxilla slightly but distinctly uncinatè), that of mandible abruptly deflected terminally; middle portion of sides of both maxilla and mandible obliquely grooved and ridged, the grooves and ridges slightly convex distally (anteriorly); nasal cuirass diminishing rapidly in width toward culmen, where surmounted

^a Also Palmer, Analyst, iv, 1836, 97. (Latinized from Puffin.)

by a backward prolongation of the culmen, the posterior end of which meets the upper portion of the basal lamina, the posterior half of which is minutely punctulated; a conspicuous tumid rosette surrounding rictus; eyelids with deciduous horny plates, that on upper eyelid in one species erect, hornlike. Wing moderate, the longest primary (outermost) exceeding distal secondaries by slightly more than half the length of wing. Tail less than one-third (but more than three-sevenths) as long as wing, very slightly rounded; rectrices 16. Tarsus much shorter than middle toe without claw, the acrotarsium with a narrow series of small transverse scutella on lower half or more; outer toe (without claw) slightly shorter than middle toe (without claw), the inner toe (without claw) slightly shorter than first two phalanges of middle toe, its claw conspicuously larger, more strongly curved, and more acute than other claws.

Nuptial ornaments.—Basal portion of bill with eleven deciduous pieces, which are shed after the breeding season,^a as are also the horny appendages to the eyelids and the tumid rictal rosette.

Plumage and coloration.—No ornamental head plumes. Upper parts, together with a band across foreneck, uniform black, the pileum grayish brown; sides of head grayish or white (blackish anteriorly in winter); under parts of body immaculate white.

Range.—Circumpolar regions, south in winter to Massachusetts, Canary Islands, Queen Charlotte Islands, and Kuril Islands. (Two species.)

KEY TO THE SPECIES AND SUBSPECIES OF FRATERCULA.

- a. Deciduous nasal cuirass occupying less than basal half of bill; grooves on sides of maxilla and mandible very oblique, broad, and distinct; process on upper eyelid short, subconical; nuptial plumage with upper throat gray (whitish gray posteriorly, light mouse gray anteriorly and laterally) and sides of head light gray posteriorly; tail shorter (42–53 mm.). (*Fratercula arctica*.)
- b. Smaller, with relatively smaller and narrower bill; averaging wing, 162.9; tail, 48.4; culmen, 48.9; greatest depth of bill, 36.3; tarsus, 26.4; middle toe, 37.4. (Coasts and islands of northern Atlantic Ocean, including Iceland and southern Greenland, south in winter to Massachusetts, Portugal, Canary Islands, etc.).....*Fratercula arctica arctica* (p. 784).
- bb. Larger, with relatively larger and deeper bill; averaging wing, 176; tail, 52.2; culmen, 53.7; greatest depth of bill, 44.7; tarsus, 23.5; middle toe, 42.5. (Islands of Arctic Ocean, from northern Greenland to Spitzbergen.)
Fratercula arctica naumanni (p. 788).
- aa. Deciduous nasal cuirass occupying much more than basal half of bill; grooves on sides of maxilla and mandible nearly vertical, narrow and indistinct; process on upper eyelid elongated, hornlike; nuptial plumage with whole throat blackish, the chin, only, gray; sides of head white; tail longer (60–68 mm.). (Shores and islands of northern Pacific Ocean and Bering Sea, from British Columbia to Kuril Islands).....*Fratercula corniculata* (p. 789).

^a See Bureau, Bull. Soc. Zool. de France, ii, 1877 (1878), 1–21, pls. 4, 5; Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 48–51, the latter with special reference, however, to *Lunda cirrhata*.

FRATERCULA ARCTICA ARCTICA (Linnaeus).

PUFFIN.

Adults in breeding plumage (sexes alike).—Pileum uniform deep grayish brown (deep fuscous or chætura drab) passing into light brownish gray on anterior portion of forehead; rest of upper parts, together with sides of neck and a broad band across foreneck uniform black, the band across foreneck, however, inclining toward color of pileum, the black of nape sharply defined against the dark grayish brown of pileum; sides of head very pale brownish gray or almost grayish white on loreal and suborbital regions, passing into light mouse gray posteriorly (including supra-auricular region) the malar region mostly mouse gray passing into grayish white next to base of mandible (narrowly) but posteriorly separated from the blackish of neck by a space of pale brownish gray; under parts of body, together with lower foreneck, immaculate white; under wing-coverts light brownish gray; bill with basal lamina of maxilla and first ridge of both maxilla and mandible dull yellow, the nasal cuirass and basal portion of mandible grayish blue or bluish gray, the remainder vermilion red, the tip of mandible and terminal grooves yellowish; rictal rosette gamboge yellow; inside of mouth, together with tongue, yellow; iris light blue^a or hazel brown;^b eyelids vermilion red, the callosities bluish gray or grayish blue; legs and feet vermilion red or coral red.^c

Winter plumage.—Similar to the breeding plumage except color and form of basal portion of bill, color of anterior portion of sides of head, and other minor details; nasal cuirass and basal lamina of bill wanting and replaced by membrane of brownish black color; rictal rosette much reduced and dull purplish red instead of yellow; eyelids dull purplish red and destitute of the callous appendages; whole of loreal and orbital regions blackish; legs and feet paler red.

Young.—Similar to winter adults, but with bill much smaller, without grooves or ridges, and much duller in color.

Downy young.—Plain dark sooty grayish brown, paler below, the breast and upper abdomen dull grayish white passing into grayish laterally, or, sometimes, quite abruptly pure white.

Adult male.—Wing, 158–168 (162.8); tail, 42–51.5 (48); culmen, 45–53.5 (49.8); greatest depth of bill, 37–42 (39.7); tarsus, 24–29.5 (26.4); middle toe, 35.5–42.5 (37.7).^d

^a According to Audubon.

^b According to Coues.

^c These are the colors of freshly killed and living specimens; in dried skins the colors are, of course, very different.

^d Fourteen specimens.

Adult female.—Wing, 157–168 (162.9); tail, 44–53 (48.8); culmen, 44–51 (48); greatest depth of bill, 34–40.5 (38); tarsus, 24.5–28 (26.2); middle toe, 34.5–39.5 (37).^a

Coasts and islands of northern Atlantic Ocean; breeding from southern Greenland and Ungava to islands in Gulf of St. Lawrence (Mingan and Magdalen islands, Anticosti Island, Bird Rocks), coast of Maine, and on European side to Portugal (Berlengas Rocks); in winter southward to Massachusetts, more rarely to Long Island (Suffolk County, Dec. 15, 1882; Montauk, Mar. 30, 1902), eastern Pennsylvania (Delaware River, near Chester, 1876), Azores, Canary Islands, and Mediterranean Sea (Malta; Sardinia; Tunis, Algeria).

[*Alca*] *arctica* LINNÆUS, Syst. Nat., ed. 10, i, 1758, 190 (Sweden); ed. 12, i, 1766, 211.—GMELIN, Syst. Nat., i, pt. ii, 1789, 549.—LATHAM, Index Orn., ii, 1790, 792 (Europe; America).—BONNATERRE, Tabl. Enc. Méth., i, 1790, 31, pl. 10, fig. 3.—GRAY, Hand-list, iii, 1871, 96, no. 10775.

Alca arctica TEMMINCK, Cat. Syst., 1807, 182.—YARRELL, Brit. Birds, iii, 1843, 362.—BESNARD, Bull. Soc. Zool. Franc., i, 1876, 88.

Fratercula arctica LEACH, Syst. Cat. Mam., etc., Brit. Mus., 1816, 42.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 37, pl. 4, fig. 1.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 132.—DEGLAND, Orn. Eur., ii, 1849, 521.—REICHENBACH, Natatores, 1850, pl. 5, figs. 23–25.—THOMPSON, Nat. Hist. Ireland, iii, Birds, 1851, 221.—WATERS, Nat. Hist. Birds Ireland, 1853, 233.—REINHARDT, Ibis, 1861, 15 (Greenland).—WRIGHT, Ibis, 1864, 157 (Malta).—MORE, Ibis, 1865, 451 (Great Britain).—GOULD, Birds Great Brit., v, 1865, pl. 51 and text.—DEGLAND and GERBE, Orn. Eur., ii, 1867, 608.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 21 (monogr.); Check List, 1873, no. 618; 2d ed., 1882, no. 854; Bull. Nutt. Orn. Club, iii, 1878, 87 (molt of bill).—COLLETT, Forh. Vid. Selsk. Christiania, 1868, 192.—TURNBULL, Birds E. Penn. and N. J., 1869, 50.—DROSTE, Journ. für Orn., 1869, 353 (Faroe Islands; habits).—GRAY (R.), Birds West Scotland, 1871, 433.—HARTING, Handb. Brit. Birds,

^a Fourteen specimens.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Nine adult males from eastern North America (Labrador to New Brunswick).....	162.1	47.4	49.3	39.4	26.3	37.2
Four adult males from southern Greenland.....	164.7	49.4	50.2	40	26.2	38.6
One adult male from Iceland.....	161.5	48.5	53.5	41.5	27.5	38
One adult male from Spitzbergen (<i>F. a. neumanni</i>)....	177	52.5	55.5	45.5	29	43
FEMALES.						
Eleven adult females from eastern North America (Labrador to Massachusetts).....	162.9	48.6	48	38.2	26.1	35.9
Two adult females from southern Greenland.....	166	48.7	49.5	39	26.5	38.5
One adult female from France.....	157	52	45	35.5	26	37
One adult female from Spitzbergen (<i>F. a. neumanni</i>)..	175	52	52	44	28	42

- 1872, 70.—BROOKE, Ibis, 1873, 348 (Sardinia).—IRBY, Orn. Gibralt., 1875, 218; 2d ed., 1895, 305; Ibis, 1883, 190 (Santander, Spain).—BARROWS, Proc. Bost. Soc. N. H., xix, 1877, 153 (monogr.).—DRESSER, Birds Europe, viii, 1877, 599, pl. 625.—BUREAU, Bull. Soc. Zool. France, ii, 1877, pl. 4 (molt of nuptial ornaments); iv, 1879, 8, pl. 1 (molt of nuptial ornaments).—KUMLIEN, Bull. U. S. Nat. Mus., no. 15, 1879, 103 (Gulf of St. Lawrence to Hudson Straits).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 743; Nom. N. Am. Birds, 1881, no. 743).—GIELIOLI, Ibis, 1881, 220 (Italian records); Avif. Ital., 1886, 444, 561; Resoc. i, Avif. Ital., 1889, 658; Resoc. ii, 1890, 651; Resoc. iii, 1891, 511.—MERRIAM, Bull. Nutt. Orn. Club, vii, 1882, 241 (Point de Monte, Quebec; Mingan Islands, breeding).—STEARNS and COUES, New Engl. Bird Life, ii, 1883, 394.—BREWSTER, Proc. Bost. Soc. N. H., xxii, 1883, 406 (Magdalen Islands, Bird Rocks, Anticosti Island, etc., breeding; habits).—BAIRD, BREWER and RIDGWAY, Water Birds N. Am., ii, 1884, 524.—SEEBOHM, Hist. Brit. Birds, iii, 1885, 364.—DIXON, Ibis, 1885, 91, 361 (St. Kilda).—SAUNDERS, ed. Yarrell's Brit. Birds, iv, 1885, 90; Illustr. Man. Brit. Birds, 1889, 691.—BOOTH, Rough Notes, iii, pt. xi, 1886, 1, pl.—AMERICAN ORNITHOLOGIST'S UNION, Check List, 1886, and 2d ed., 1895, no. 13.—SALVADORI, Ucc. Ital., 1887, 295.—TAIT, Ibis, 1887, 399 (Portugal).—DUTCHER, Auk, v, 1888, 171 (Suffolk County, Long Island, Dec. 15, 1882).—BRUSINA, Soc. Hist.-Nat. Croatia, iii, 1888, 140.—LILFORD, Col. Figs. Brit. Birds, pt. x, 1889.—BISHOP, Auk, vi, 1889, 145 (Magdalen Islands).—CHAMBERLAIN, Auk, vi, 1889, 213 (s. Greenland).—WARREN, Birds Penn., 1890, 9.—EVANS, Ibis, 1891, 83 (incubation period 36 days).—WALDO, Ibis, 1893, 207 (Canary Islands).—BLAGG, Ibis, 1893, 358 (Shetland Islands, breeding).—STONE, Birds E. Penn. and N. J., 1894, 40 (Chester, Pennsylvania); Birds New Jersey, 1902, 43 (Chester, Pennsylvania).—PEARSON and BIDEWELL, Ibis, 1894, 237 (Hjemsø, Norway).—SCHALOW, Journ. für Orn., 1895, 460 (w. Greenland).—KNIGHT, List Birds Maine, 1897, 15 (coast Maine, breeding).—SHARPE, Handb. Birds Great Brit., iv, 1897, 130, pl. 110.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 616, part (Labrador; Mingan, Quebec; Bay of Fundy; Sable Island; s. and w. Greenland; etc.).—CHAPMAN, Bull. Am. Mus. N. H., xii, 1899, 220 (Holsteinborg, Greenland).—NORTON, Proc. Portland Soc. N. H., ii, 1901, 140 (Labrador; crit.), 145 (measurements), pl. 2, fig. 4 (bill).—HARTERT, Novit. Zool., viii, 1901, 306 (Canary Islands).—BIGELOW, Auk, xix, 1902, 25 (coast Labrador, breeding).—BRAESLIN, Auk, xx, 1903, 50 (Montauk, Long Island, 1 spec., Mar. 30, 1902).—HARTERT and GRANT, Novit. Zool., xii, 1905, 100 (San Miguel, Azores).
- Fra[tercula] arctica* VIEILLOT, Nouv. Dict. d'Hist. Nat., xviii, 1817, 330.
- F[atercula] arctica* GRAY, Gen. Birds, iii, 1847, 637.—COUES, Key N. Am. Birds, 2d ed., 1884, 802.—RIDGWAY, Man. N. Am. Birds, 1887, 11.
- [*Fra[tercula] arctica* SHARPE, Hand-list, i, 1899, 133.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (British localities).
- [*Fra[tercula] arcticus* COUES, Key N. Am. Birds, 1872, 340.
- [*Fra[tercula] arctica*] s. *arctica* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 523.
- Fra[tercula] arctica arctica* SCHALOW, Vögel der Arktis, 1904, 121 (synonymy, range, etc.).—HANTZSCH, Journ. für Orn., 1906, 143, in text, 310 (Labrador).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3d ed., 1910, p. 28.
- Mormon arcticus* NAUMANN, Isis, 1821, 783, pl. 7, figs. 5-7.—BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 430; Geog. and Comp. List, 1838, 66.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 542.—NILSSON, Skand. Faun., ii, 1835, 516.—AUDUBON, Orn. Biog., iii, 1835, 105, pl. 213; Synopsis,

- 1839, 343; Birds Am., 8vo. ed., vii, 1844, 238, pl. 464.—MACGILLIVRAY, Brit. Birds, v, 1852, 365.—SCHINZ, Nat. Vög., 1853, 344.—COUES, Proc. Ac. Nat. Sci. Phila., 1861, 251 (coast Labrador; habits, etc.).—FRITZINGER, Atlas Nat. Vög., 1864, fig. 4.—LAWRENCE, Ann. Lyc. N. Y., viii, 1867, 300 (vicinity New York City).—FRITSCH, Nat. Vög. Eur., 1870, 492, pl. 57, fig. 4.—PALMÉN, Journ. für Orn., 1876, 65 (Finland).—MAYNARD, Birds E. N. Am., 1881, 498.—SAMUELS, Nests and Eggs N. Am. Birds, 1883, 566.—SUNDEVALL, Svensk. Fogl., iii, 1885, 972, pl. 52, fig. 1.
- Mormon arctica* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 903.—BAIRD, Cat. N. Am. Birds, 1859, no. 715.—REINHARDT, Journ. für Orn., 1854, 442 (Greenland).—VERRILL, Proc. Essex Inst., iii, 1862, 160 (coast Maine, resident; breeding on islands about Grand Menan).
- L[unda] arctica* KEYSERLING and BLASTUS, Wirb. Eur., 1840, pp. xcii, 236.
- Lunda arctica* NAUMANN, Vög. Deutschl., xii, 1844, 577, pl. 335.—SCHLEGEL, Mus. Pays. Bas, vi, no. 33 (Urinatores), 1867, 28.—BRANDT, Mélang. Biol., vii, 1869, 241.
- Asia arctica* BODDAERT, Tabl. Pl. Enl., 1783, 17, pl. 275.
- [*Alca*] *deleta* BRÜNNICH, Orn. Bor., 1764, 25 (Iceland; = young).
- [*Alca*] *labradorica* GMELIN, Syst. Nat., i, pt. ii, 1789, 550 (Labrador; based on Labrador Auk. Pennant, Arct. Zool., ii, p. 512; = young).—BONNATERRE, Tabl. Encycl. Méth., i, 1790, 33.
- Alca labradorica* VIEILLOT, Nouv. Dict. d'Hist. Nat., xviii, 1817, 333.
- [*Alca*] *labradora* LATHAM, Index Orn., ii, 1790, 793.
- Alca canogularis* MEYER and WOLF, Taschenb. Vög. Deutschl., 1810, 442.
- Mormon fratercula* TEMMINCK, Man. d'Orn., 1815, 614; 2d ed., pt. ii, 1820, 933; pt. iv, 1840, 580.—MEYER, App. to Meyer and Wolf's Taschenb., 1822, 177.—SCHINZ, Nat. Abbild. Vög., 1833, 372, pl. 130; Eur. Faun., i, 1840, 362.—HÖLBOELL, Naturhist. Tidsskr., iv, 1843, 456 (Greenland).—KJÆRBØLLING, Danm. Fugle, 1852, 412, pl. 53, fig. 3.—LÜTKEN, Orn. 1855, 142; 1886, 97 (Denmark).—TSCHUSI and HOMER, Orn. 1886, 174 (local names).—GRÖNDAL, Orn. 1886, 367, 613 (Iceland); 1887, 600, 602, 606.—KOENIG, Journ. für Orn., 1893, 105 (Tunis).
- Mormon polaris* BREHM, Isis, 1826, 985 (Greenland); Handb. Vög. Deutschl., 1831, 999.
- Mormon grabae* BREHM, Handb. Vög. Deutschl., 1831, 999, pl. 46, fig. 1 (Faroes, etc.).—OLPHE-GALLIARD, Ibis, 1875, 267.—VIAN, Bull. Soc. Zool. France, i, 1876, 4.
- Uria troile* (not *Colymbus troille* Linnaeus) WRIGHT, Ibis, 1864, 42, 157 (Malta).
- Mormon glacialis* TEMMINCK, Man. d'Orn., 2d ed., pt. ii, 1820, 933; ed. 1840, pt. iv, 579 (northern coasts of America).—WERNER, Atlas Ois. Eur., 1823, pl. 100.—BONAPARTE, Ann. Lyc. N. Y., ii, 1823 ("Synopsis"), 429; Geog. and Comp. List, 1838, 66.—BREHM, Handb. Vög. Deutschl., 1831, 998.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 541.—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 903.—BAIRD, Cat. N. Am. Birds, 1859, no. 714.—FRITSCH, Nat. Vög. Eur., 1870, 493.—HEUGLIN, Journ. für Orn., 1871, 105 (n. Europe).
- Fratercula glacialis* STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 40, pl. 4, fig. 2.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 153.—DEGLAND, Orn. Eur., ii, 1849, 523, part.—REINHARDT, Ibis, 1861, 15 (Greenland).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 23 (monogr.).—ELLIOT, Illustr. New and Unfig. N. Am. Birds, ii, 1869, pl. 65 and text.—BROOKE, Ibis, 1873, 348 (Sardinia).—BUREAU, Bull. Soc. Zool. France, ii, 1877, 393, pl. 5, figs. 1, 2 (molt of ornaments of bill).—PEARSON, Ibis, 1898, 207 (Novaya Zemlya).

- [*Fratercula*] *glacialis* SHARPE, Hand-list, i, 1899, 133, part.
 [*Alca*] *glacialis* GRAY, Hand-list, iii, 1871, 96, no. 10776.
 [*Fratercula arcticus*.] Var. *glacialis* COUES, Key N. Am. Birds, 1872, 340.
Fratercula arctica . . . var. *glacialis* COUES, Check List, 1873, no. 618a.
Fratercula arctica glacialis RIDGWAY, Proc. U. S. Nat. Mus., iii, Sept. 4, 1880, 211 (Cat. N. Am. Birds, no. 743a); Nom. N. Am. Birds, 1881, no. 743a.—COUES, Check List, 2d ed., 1882, no. 855.—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 527, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 13a, part.—[?] CHAPMAN, Bull. Am. Mus. N. H., xii, 1899, 220 (Mauson Island, Greenland).—NORTON, Proc. Portland Soc. N. H., ii, 1901, 145, pl. 2, figs. 1, 2, 5 (bills; Herring Islands, Labrador; measurements).—SCHALOW, Vögel der Arktis, 1904, 121, part (synonymy, range, etc.).—HANTZSCH, Journ. für Orn., 1908, 310 (Labrador).
 [*Fratercula*] *a[rctica] glacialis* COUES, Key N. Am. Birds, 2d ed., 1884, 803, part.—HANTZSCH, Journ. für Orn., 1908, 143, in text.
 [*Fratercula*] *arctica glacialis* RIDGWAY, Man. N. Am. Birds, 1887, 11, part.
 [*Fratercula arctica*] *β. glacialis* BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 523.
 [*Fratercula arctica*] *armoricana* BUREAU, Bull. Soc. Zool. France, iv, 1879 (1880), 18, 21, pl. 1, figs. 1-3 (France, England, Faroes, Sweden).
 [*Fratercula arctica*] *islandica* BUREAU, Bull. Soc. Zool. France, iv, 1879 (1880), 18, 21, pl. 1, figs. 4-8 (Iceland; Finmark; Greenland; Newfoundland; Canada).

FRATERCULA ARCTICA NAUMANNI Norton.

LARGE-BILLED PUFFIN.

Similar to *F. a. arctica*, but larger, with larger and relatively deeper bill.

Adult male.—Wing, 177; tail, 52.5; culmen, 55.5; greatest depth of bill, 45.5; tarsus, 29; middle toe, 43.^a

Adult female.—Wing, 175; tail, 52; culmen, 52; greatest depth of bill, 44; tarsus, 28; middle toe, 42.^a

Islands in Arctic Ocean, from northern Greenland to Spitzbergen (Novaya Zemlya; Jan Mayen Land; etc.).

Fratercula glacialis (not *Mormon glacialis* TEMMINCK, 1820, when first described).—LEACH, Ann. Philos., xiii, no. lxxiii, Jan., 1819, 61 (*nomen nudum*; Spitzbergen).—BOIE, Isis, Heft viii, 1822, 872.—STEPHENS, Shaw's Gen. Zool., xiii, pt. 1, 1826, 40, pl. 4, fig. 2.—NEWTON, Ibis, 1865, 112, 113, 521, pl. 6 (Spitzbergen; crit.).—TREVOR-BATTYE, Ibis, 1897, 599 (Spitzbergen).

[?] *Fratercula glacialis*? GILLET, Ibis, 1870, 308 (Novaya Zemlya).

[*Fratercula*] *glacialis* SHARPE, Hand-list, i, 1899, 133, part.

Fratercula arctica glacialis BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 803, part.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 13a, part.—SCHALOW, Vögel der Arktis, 1904, 121, part (synonymy, range, etc.).

[*Fratercula*] *a[rctica] glacialis* COUES, Key N. Am. Birds, 2d ed., 1884, 803, part.

[*Fratercula*] *arctica glacialis* RIDGWAY, Man. N. Am. Birds, 1887, 11, part.

[?] *Fratercula arctica* var. *glacialis* HEUGLIN, Ibis, 1872, 64 (Novaya Zemlya); Journ. für Orn., 1872, 123 (Novaya Zemlya).

^a One specimen. The only specimens examined of this form are from Spitzbergen.

[?] *Fratercula arctica* . . . var. *glacialis* CLARKE (W. E.), Zoologist, 1890, 46 (Jan Mayen Land; crit.).

Mormon glacialis NAUMANN, Isis, 1821, 782, pl. 7, fig. 2.

Mormon arcticus (not *Alca arctica* Linnæus) MALMGREN, Journ. für Orn., 1865, 267 (Spitzbergen).—WALTER, Journ. für Orn., 1890, 245, 252 (e. Spitzbergen).—CLARKE (W. E.), Ibis, 1899, 50 (Whale Point Harbor, Olga Straits, e. Spitzbergen).

Fratercula arctica GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 616, part (Spitzbergen).

Fratercula arctica naumanni NORTON, Proc. Portland Soc. N. H., ii, May 20, 1901; 144, footnote, 145, pl. 2, fig. 3 (Spitzbergen; coll. U. S. Nat. Mus.); Auk, xxxiv, 1917, 206.—AMERICAN ORNITHOLOGISTS' UNION, Check List, 3rd ed., 1910, p. 26.

FRATERCULA CORNICULATA (Naumann).

HORNED PUFFIN.

Adults in breeding season (sexes alike).—Pileum uniform grayish brown or drab; entire side of head, including superciliary and supra-auricular regions, white; neck (all round) and entire upper parts uniform black, the throat more sooty, this passing into brownish gray on chin; under parts, including lower foreneck, immaculate white; under wing-coverts brownish gray; tip of bill, to between second and third grooves, salmon-red along culmen and gonys, elsewhere brownish red; basal portion of bill (including first ridge and basal maxillary lamina, clear light chrome yellow (in life); rictal rosette, bright orange; tongue and interior of mouth bright orange; iris brownish gray; eyelids vermilion red, the soft appendages brownish black; legs and feet deep vermilion red.

Winter plumage.—Bill differently shaped, being broader through middle than at base, the deciduous nasal cuirass, basal lamina, etc., having been shed, all this basal portion dusky, instead of yellow; the rictal rosette greatly reduced and pale yellow instead of red; superciliary horn-like appendage absent, and eyelids brownish gray, instead of red; sides of head gray, becoming sooty blackish on orbital and loreal regions, and legs and feet much paler red.

Young.—Similar in coloration of plumage to winter adults but bill very different, being much less deep, the culmen much less arched, the terminal portion of both maxilla and mandible destitute of grooves or ridges, and horn color or brownish, without reddish tinge.

Downy young.—Uniform dark sooty grayish brown, the breast and upper abdomen, rather abruptly, white.

Adult male.—Wing, 170–187.5 (181.4); tail, 60–68 (64.1); culmen, 46–55 (50.6); greatest depth of bill, 35.5–50 (43.6); tarsus, 27–30 (27.9); middle toe, 40–44 (41.3).^a

^a Seven specimens.

Adult female.—Wing, 168–185 (177.9); tail, 61–68 (63.5); culmen, 47–52.5 (49.7); greatest depth of bill, 37.5–46 (43.4); tarsus, 25–31 (28.5); middle toe, 38.5–44 (41.5).^a

Coasts and islands of Bering Sea and contiguous portions of Arctic and northern Pacific oceans; breeding from Koliutschin Island, Arctic coast of eastern Siberia (near Bering Strait) and Cape Lisburne, Alaska, southward to Aleutian and Commander islands and Glacier Bay; in winter southward to Kuril Islands and Queen Charlotte Islands, rarely as far as Monterey Bay, California (1 specimen, Feb. 17, 1914).

Alca arctica] β Gmelin, Syst. Nat., i, pt. ii, 1/89, 549 (Bird Island, between Asia and America).—LATHAM, Index Orn., ii, 1790, 792.

Mormon corniculata NAUMANN, Isis, 1821, 782, pl. 7, figs. 3, 4 (Kamchatka).—KITTLITZ, Denkw. Reise, i, 1858, 301 (St. Matthew Island, Bering Sea).—CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 902; Proc. Ac. Nat. Sci. Phila., 1862, 324 (Bering Strait).—BAIRD, Cat. N. Am. Birds, 1859, no. 713.—DALL and BANNISTER, Trans. Chicago Acad. Sci., i, 1869, 308 (St. Michael, Coal Harbor, and Unga Island, Alaska; Plover Bay, Siberia).—DALL, Proc. Calif. Ac. Sci., v, 1873, 34 (Unalaska, breeding); v, 1874, 279 (Aleutian Islands).

M[ormon] corniculata SAUNDERS, Ibis, 1883, 348.

Mormon corniculatum KITTLITZ, Kupfertaf., i, 1832, 3, pl. 1, fig. 1.—MIDDENDORFF, Sibir. Reise, ii, pt. 2, 1853, 240.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 331 (s. coast Okotsk Sea).—HOMER, Journ. für Orn., 1870, 436 (s. Siberia).—TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 52 (Okotsk Sea); Orn. Faun. Vost. Sibii., 1877, 74.—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, viii, 1880, 179; x, 1882, 89.—BLAKISTON, Amend. List Birds Japan, 1884, 29, 31.

Mormon corniculatus PALMÉN, Swed. Cat. Lond. Fish. Exhib., 1883, 201.—SEBBOHM, Ibis, 1884, 174 (Kuril Islands).

Lunda corniculata PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 365, part.—SCHLEGEL, Mus. Pays-Bas, vi, no. 33 (Urinatores), 1867, 28.—BRANDT, Mélang. Biol., vii, 1869, 242.

Fratercula corniculata GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 153; Gen. Birds, iii, 1848, pl. 174.—REICHENBACH, Natatores, 1850, pl. 5, fig. 28.—KITTLITZ, Journ. für Orn., 1858, 389; Denkw. Reise, ii, 1858, 224.—DEGLAND and GERBE, Otn. Eur., ii, 1867, 609, part.—COUES, Proc. Ac. Nat. Sci.

^a Twelve specimens.

Locality.	Wings.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
Five adult males from Alaska.....	183.4	64.1	49.8	42.9	28.3	41.8
Two adult males from Bering Island, Kamchatka.....	176.5	64	52.5	45.2	27	40
FEMALES.						
Ten adult females from Alaska.....	177.5	63.9	49.3	43.1	28.4	41.4
One adult female from Bering Island.....	176	61	51	43.5	29	41.5
One adult female from eastern Siberia (Emma Harbor).....	184	62	52.5	46	29	42.5

- Phila., 1868, 25 (monogr.); Check List, 1873, no. 617; 2d ed., 1882, no. 853; in Elliott's *Aff. in Alaska*, 1875, 202.—FINSCH, *Abh. Nat. Ver. Bremen*, iii, 1872, 82 (Alexandrovsk, e. Siberia; Kamchatka; Kuril Islands).—BARROWS, *Proc. Bost. Soc. N. H.*, xix, 1877, 152 (monogr.).—BUREAU, *Bull. Soc. Zool. France*, ii, 1877, 394, pl. 5, fig. 3; iv, 1879, 28, pl. 2 (molt of nuptial ornaments of bill).—RIDGWAY, *Proc. U. S. Nat. Mus.*, iii, 1880, 211 (Cat. N. Am. Birds, no. 744); *Nom. N. Am. Birds*, 1881, no. 744.—ELLIOTT, *Mon. Pribylov Group*, 1882, 133 (summer resident, breeding).—BEAN, *Proc. U. S. Nat. Mus.*, v, 1882, 171 (St. Matthew Island).—TACZANOWSKI, *Bull. Soc. Zool. France*, vii, 1882, 398 (Bering Island); *Mém. Ac. St. Pétersb.*, xxxix, 1893, 1248 (e. Siberia).—DYBOWSKI, *Orn. Centralbl.*, 1882, 40; *Bull. Soc. Zool. France*, vii, 1882, 297.—NELSON, *Cruise 'Corwin' in 1881 (1883)*, 115 (Bering Sea; Aleutian Islands; Herald Island; Cape Thompson; Cape Lisbourne; habits); *Rep. N. H. Coll. Alaska*, 1887, 38, pl. 2, fig. 4 (habits).—DYBOWSKI and TACZANOWSKI, *Bull. Soc. Zool. France*, ix, 1884, 147.—BAIRD, BREWER, and RIDGWAY, *Water Birds N. Am.*, ii, 1884, 529.—TURNER, *Auk*, ii, 1885, 159 (Attu Island, Aleutians, breeding); *Contr. N. H. Alaska*, 1886, 118 (habits).—STEUNGEER, *Bull. U. S. Nat. Mus.*, no. 29, 1885, 59, pl. 3, (Commander Islands, breeding; habits; molt of nuptial ornaments; etc.). *Proc. U. S. Nat. Mus.*, xxi, 1898, 275 (Kuril Islands).—AMERICAN ORNITHOLOGISTS' UNION, *Check List*, 1886, and 2d ed., 1895, no. 14; 3d ed., 1910, p. 26.—PALMÉN, 'Vega'-Exped., v, 1887, 400.—TOWNSEND (C. H.), *Cruise 'Corwin' in 1885 (1887)*, 98 (Pribilofs; Otter Island).—GRINNELL (J.) *Auk*, xv, 1898, 124 (Sitka); *Pacific Coast Avif.*, no. 11, 1915, 17 (Pacific Grove, Monterey Co., California, 1 spec., Feb. 17, 1914).—SEALE, *Proc. Ac. Nat. Sci. Phila.*, 1898, 127.—GRANT, *Cat. Birds Brit. Mus.*, xxvi, 1898, 620.—PALMER (W.), *Avif. Pribilof Is.*, 1899, 384 (abundant, breeding; habits, etc.).—SEEBOHM, *Birds Japanese Emp.*, 1890, 290.—ALLEN, *Bull. Am. Mus. N. H.*, xxi, 1905, 223 (Gichiga, Novo Marinsk, etc., n. e. Siberia, breeding).—KERMODE, *Prov. Mus. Victoria*, 1909, 22 (Queen Charlotte Islands, rare).—THAYER and BANGS, *Proc. New Engl. Zool. Club*, v, 1914, 8 (Koluntschin Island, n. e. Siberia, breeding).—BROOKS (W. S.), *Bull. Mus. Comp. Zool.*, lix, 1915, 371 (n. Bering Sea; East Cape, Siberia).
- [*Fratrercula*] *corniculata* COUES, *Key N. Am. Birds*, 1872, 340.—SHARPE, *Hand-list*, i, 1877, 183.—FORBES and ROBINSON, *Bull. Liverp. Mus.*, ii, no. 2, 1899, 53 (Kamchatka).
- [*Fratrercula*] *corniculata* COUES, *Key N. Am. Birds*, 2d ed., 1884, 801.—RIDGWAY, *Man. N. Am. Birds*, 1887, 11.
- [*Alca*] *corniculata* GRAY, *Hand-list*, iii, 1871, 96, no. 10777.
- Lunda arctica* (not *Alca arctica* Linnæus) PALLAS, *Zoogr. Rosso-Asiat.*, ii, 1826; 365, part, pl. 83.
- Fratrercula arctica* BUREAU, *Bull. Soc. Zool. France*, iv, 1879, 8.
- Mormon septentrionalis* KITTITZ, *Isis*, 1832, 1105 (*nomen nudum*).
- Mormon glacialis* (not of Naumann, 1821) AUDUBON, *Orn. Biog.*, iii, 1835, 599, pl. 293; *Synopsis*, 1839, 343; *Birds Am.*, 8vo. ed., vi, 1844, 236, pl. 463.—GOULD, *Birds Europe*, v, 1837, pl. 404 and text.—HARTING, *Proc. Zool. Soc. Lond.*, 1871, 120 (Bering Strait).
- Fratrercula glacialis* VIGORS, *Zool. Voy. 'Blossom,' Birds*, 1839, 33 (Chamisso Island; Cape Mulgrave; Cape Lisburne).—REICHENBACH, *Natatores*, 1850, pl. 5, figs. 26, 27; pl. 7, figs. 2228, 2229.

Genus LUNDA Pallas.

Lunda PALLAS, Zoogr. Rosso-Asiat., ii, 1826, 363. (Type as fixed by Gray, 1840, *Alca cirrhata* Pallas.)

Gymnoblepharum BRANDT, Bull. Sci. St. Petersb., ii, 1837, 349. (Type, *Alca cirrhata* Pallas.)

Sagmatorrhina BONAPARTE, Proc. Zool. Soc. Lond., 1851, 202. (Type, *S. lathamii* Bonaparte=*Alca cirrhata* Pallas.)

Sagmatorrhina (emendation) BONAPARTE, Ann. Sci. Nat., (4), i, 1854, 144.

Cheniscus (not of Eyton, 1838) GRAY, List Gen. and Subgen. Birds, 1855, 127. (Type, *Alca cirrhata* Pallas.)

Large Fraterculinæ (wing 179–206 mm.) with the deciduous nasal cuirass broadest toward culmen, where surmounted by a broadly rounded ridge, its anterior outline concave; maxillary grooves nearly vertical, concave distally; basal lamina of maxilla much broader below than above; eyelids without tumid appendages, and head with conspicuous, elongated and decurved postocular plumes.

Bill very large and deep, its depth from base of culmen to gonydeal angle at least equal to distance from posterior end of nostril to tip of maxilla, the culmen (from frontal feathering) as long as or longer than middle toe with claw (in adults); nasal cuirass much broader above than below, its anterior outline strongly concave, surmounted on top by a broad, rounded, and much thickened, slightly arched ridge, in line with culmen; basal lamina of maxilla much wider below than above, minutely punctulated; sides of maxilla (in front of nasal cuirass) with two to three nearly vertical grooves, slightly concave distally, the sides of mandible without grooves; gonys nearly straight, strongly ascending terminally, its basal angle very prominent through contraction of the mandibular rami, its length equal to distance from posterior end of nostril to tip of maxilla in breeding adults, much less in winter adults and young; maxillary tomium strongly and abruptly reflexed basally, nearly straight thence to the strongly incised terminal portion, the tip of maxilla strongly uncinat; mandibular tomium slightly but distinctly recurved distally, the tip of mandible obliquely and broadly truncate; nostril longitudinal, curved-linear, the upper edge concave, the lower convex; a tumid rictal rosette, conspicuous in breeding season, much less so in winter. Wing moderate, the longest primaries (two outermost) exceeding distal secondaries by about half the length of wing. Tail about one-third as long as wing, double-rounded, the lateral rectrices much shorter than middle pair. Tarsus about as long as distance from posterior end of nostril to tip of maxilla, or slightly less (equal to combined length of first and second phalanges of middle toe), for the greater part reticulate, but the acrotarsium transversely scutellate (mostly on inner side); outer toe (without claw) as long as middle toe (without claw), or very slightly shorter, the inner toe as long as first two phalanges of middle toe; claws rather large, that of the

inner toe conspicuously larger, more strongly curved, and more acute, than the others.

Nuptial ornaments.—The whole basal portion of the bill covered by accessory deciduous pieces, which are shed after the breeding season, the most conspicuous of these being the nasal cuirass, the basal lamina of maxilla, and the basal portion of the mandible. Coincident with the loss of these accessory pieces of the bill, the tumid rictal rosette becomes much shrunken and changes in color, the conspicuous elongated and decurved yellowish postocular plumes fall out, and the white orbital and loreal area (extending to the chin) of breeding adults changes to blackish.

Coloration.—Plain sooty black above, uniform sooty grayish-brown below; in breeding season, adults with whole of loreal and orbital regions white (this extending anteriorly to and including the chin), and sides of head ornamented by a conspicuous postocular tuft of elongated, decurved, silky, straw-yellow plumes.

Range.—Coasts and islands of northern Pacific Ocean and Bering Sea, from Lower California to northern Japan. (Monotypic.)

LUNDA CIRRHATA (Pallas).

TUFTED PUFFIN.

Adults in breeding season (sexes alike).—Upper parts slightly glossy sooty black, passing into uniform dark sooty brown (dark clove brown) on sides of head and neck, the chin, throat and foreneck very slightly lighter passing into deep grayish brown (between fuscous and benzo brown or hair brown) on under parts of body; under wing-coverts uniform deep brownish gray or hair brown; anterior portion of forehead, whole of loreal, orbital and rictal regions, and anterior portion of malar region and chin, immaculate white; elongated postocular tufts Naples yellow to cream-buff; distal half (approximately) of bill salmon-red, basal portion light olive-green, the cylindrical ridge more apple green; rictal rosette mostly purplish flesh color, the narrow line of skin between base of bill and feathering of head, rictus, part of the rosette, and naked eyelid vermilion red; iris creamy white; legs and feet bright salmon-red, the soles reddish brown, claws black.^a

Winter adults.—Sides of head wholly dusky, but lighter in region of insertion of nuptial plumes, which are wholly absent; horny nasal cuirass, basal lamina, and other deciduous parts covering basal half of bill absent and replaced by dusky brown membrane; otherwise as in summer, but legs and feet paler red.

Young in first winter.—Similar to winter adults, but maxilla without grooves, the terminal portion of bill inclining to brownish orange-

^a Stejneger, Bull. U. S. Nat. Mus., no. 29, 1885, 44.

red; nuptial tufts present in a rudimentary condition but of a light brownish color.

Young in first summer or autumn.—Similar to the preceding but bill smaller, narrower, and more brownish, and without indication of nuptial tufts.

Downy young.—Uniform dark sooty grayish brown, paler below, especially on abdomen, where inclining to sooty gray.

Adult male.—Wing, 187–206 (194.4); tail, 57–64.5 (62.3); culmen, 53–65 (60.2); greatest depth of bill, 41–51 (46.8); tarsus, 30–34.5 (32.4); middle toe, 45.5–53.5 (49).^a

Adult female.—Wing, 179.5–196.5 (189.2); tail, 58–64 (63); culmen, 54.5–60 (57.1); greatest depth of bill, 43–47 (44.6); tarsus, 29–33 (31.1); middle toe, 43–49 (46.2).^b

Coasts and islands of Bering Sea and contiguous portions of Arctic and Pacific oceans; breeding from Koliutschin Island (Arctic coast of eastern Siberia; near Bering Strait) and Cape Lisburne, Alaska, to Aleutian, Commander, and Pribilof Islands, on American side breeding southward to coast of California (Farallon Islands; Santa Barbara Islands); southward in winter to Lower California (Cape Los Martires); accidental in Greenland (?) and Maine.

Alca cirrhata PALLAS, Spic. Zool., i, fasc. v, 1769, 7, pl. 1 and pl. 2, figs. 1, 2, 3 (Kamchatka to Aleutian Islands).—MOSCHLER, Journ. für Orn., 1856, 335 (Greenland).—KITTLITZ, Denkw. Reise, ii, 1858, 206.—BOLAU, Journ. für Orn., 1880, 132 (coast e. Siberia).

[*Alca*] *cirrhata* GMELIN, Syst. Nat., i, pt. ii, 1789, 553.—LATHAM, Index Orn., ii, 1790, 791.—BONNATERRE, Tabl. Enc. Méth., i, 1790, 32, pl. 10, fig. 4, pl. 11, fig. 1.—GRAY, Hand-list, iii, 1871, 96, no. 10778.

Alca (Mormon) cirrhata BOLAU, Journ. für Orn., 1880, 132 (coast e. Siberia).

Alca Mormon cirrhata DÖRRERES, Journ. für Orn., 1888, 96 (e. Siberia).

^a Eleven specimens.

^b Nine specimens.

Locality.	Wing.	Tail.	Culmen.	Greatest depth of bill.	Tarsus.	Middle toe.
MALES.						
One adult male from Lower California (Cape Los Martires)	187	60	58	47	32.5	48.5
Two adult males from California (Farallon Islands) ..	193.7	60	58	46.2	34	51
Seven adult males from Alaska	195.6	63.1	60.3	46.9	31.9	48.6
One adult male from Bering Island, Kamchatka	194.5	63.5	59	44	31.5	48.5
FEMALES.						
One adult female from California (Farallon Islands) ..	185	61	56.5	44.5	32	49
Six adult females from Alaska	190.4	61.4	56.6	44.9	30.6	45.7
One adult female from Bering Island	179	59	57.5	44	31	43
One adult female from Kuril Islands	196	58.5	60	43	33	49

- Lunda cirrhata* PALLAS, Zoogr. Rosso. Asiat., ii, 1826, 363, pl. 82.—GRAY, List Birds Brit. Mus., iii, Anseres, 1844, 152.—REICHENBACH, Natatores, 1850, pl. 5, figs. 29-31.—COINDE, Rev. et Mag. de Zool., 1860, 403 (St. Paul Island, Pribilofs).—SCHLEGEL, Mus. Pays-Bas, vi, no. 33, Urinatores, 1867, 27.—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 26 (monogr.).—PELZELN, Ibis, 1873, 46 (Kamchatka).—RIDGWAY, Proc. U. S. Nat. Mus., iii, 1880, 211 (Cat. N. Am. Birds, no. 745); Nom. N. Am. Birds, 1881, no. 745.—DYBOWSKI, Sitzb. Dorpat. Nat. Ges., vi, 1882, 170; Bull. Soc. Zool. France, vii, 1882, 297; viii, 1883, 348; Orn. Centralbl., 1882, 40.—NELSON, Cruise 'Corwin' in 1881 (1883), 115 (Aleutian Islands to Bering Strait); Rep. N. H. Coll. Alaska, 1887, 38, pl. 2, fig. 5 (habits).—BAIRD, BREWER, and RIDGWAY, Water Birds N. Am., ii, 1884, 532.—DYBOWSKI and TACZANOWSKI, Bull. Soc. Zool. France, ix, 1884, 147.—STEJNEGER, Naturen, 1884, 54 (Commander Islands); Bull. U. S. Nat. Mus., no. 29, 1885, 43, pls. 1, 2 (Commander Islands; habits crit., etc.); Proc. U. S. Nat. Mus., x, 1887, 119 (Commander Islands); xxi, 1898, 275 (Kuril Islands, breeding).—TURNER, Auk, ii, 1885, 159 (Attu Island, Aleutians, breeding); Contr. N. H. Alaska, 1886, 117 (St. Michaels, etc.; habits).—AMERICAN ORNITHOLOGISTS' UNION, Check List, 1886, and 2d ed., 1895, no. 12; 3rd ed., 1910, p. 25.—TOWNSEND (C. H.), Cruise 'Corwin' in 1885 (1887), 98 (Pribilof Islands; Otter Island).—PALMÉN, 'Vega' Exped., v, 1887, 402.—BRYANT (W. E.), Proc. Calif. Ac. Sci., 2d ser., i, 1888, 27 (Farallon Islands, breeding: habits, descr. nest and eggs, etc.).—LAWRENCE (R. H.), Auk, ix, 1892, 41 (Grays Harbor, Washington).—TACZANOWSKI, Mém. Ac. St. Pétersb., xxxix, 1893, 1243 (e. Siberia).—GRINNELL (J.), Pub. 1, Pasadena Ac. Sci., 1897, 22 (Santa Barbara Island, California, breeding); Pub. 2, 1898, 6 (Santa Barbara Island); Pacific Coast Avif., no. 11, 1915, 17 (Farallon Islands, Point Reyes, Carmel Bay, near Port Harford, San Miguel Island, etc., California, breeding).—SEALE, Proc. Ac. Nat. Sci. Phila., 1898, 127.—GRANT, Cat. Birds Brit. Mus., xxvi, 1898, 612.—PALMER (W.), Avif. Pribilof Is., 1899, 384 (breeding abundantly; habits, etc.).—RAY, Auk, xxi, 1904, 428 (Farallon Islands; habits, etc.).—ALLEN, Bull. Am. Mus. N. H., xxi, 1905, 222 (Gichiga and Marinsk, n. e. Siberia, breeding).—KNOWLTON, Birds of the World, 1909, 398, col. pl. facing p. 398.—JONES, Wilson Bull., xxi, 1909, 3, figs. 2-6 (Carroll Inlet, Washington, breeding; habits, etc.).—CLARK (A. H.), Proc. U. S. Nat. Mus., xxxviii, 1910, 29 (off San Francisco to Aleutian Islands; Bering Island; Okotak Sea; Kuril Islands; n. Yezo, etc.; habits).—THAYER and BANGS, Proc. New Engl. Zool. Club, v, 1914, 7 (Koliutschin Island, e. Siberia, breeding).—BROOKS, Bull. Mus. Comp. Zool., lix, 1915, 371 (Cape Shipunski and East Cape, Siberia; Commander Islands).
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- [Lunda] cirrhata* SHARPE, Hand-list, i, 1899, 133.—FORBES and ROBINSON, Bull. Liverp. Mus., ii, no. 2, 1899, 53 (Kamchatka).
- Mormon cirrhatus* KITTLITZ, Kupfertaf. Nat. Vög., i, 1832, 3, pl. 1, fig. 2.
- Mormon cirrhatus* KITTLITZ, Isis, 1832, 1104.—MIDDENDORFF, Sibir. Reise, ii, pt. 2, 1853, 240.—SWINHOE, Proc. Zool. Soc. Lond., 1863, 331 (Amurland).—TACZANOWSKI, Bull. Soc. Zool. France, ii, 1877, 52 (Abrek Bay, e. Siberia); vii, 1882, 398 (Bering Island).—BLAKISTON and PRYER, Trans. Asiat. Soc. Japan, viii, 1880, 179; x, 1882, 88 (Kuril Islands).—SEEBOHM, Ibis, 1879, 21 (Japan).
- Mormon cirrhatus* BONAPARTE, Ann. Lyc. N. Y., ii, 1828 ("Synopsis"), 429; Geog. and Comp. List, 1838, 66.—SCHINZ, Nat. Abbild. Vög., 1833, 373, pl. 130.—NUTTALL, Man. Orn. U. S. and Can., Water Birds, 1834, 539.—AUDUBON, Orn. Biog., iii, 1835, 364, pl. 249; Synopsis, 1839, 342; Birds Am., 8vo.

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- Mormon cirrhata* CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 902.—BAIRD, Cat. N. Am. Birds, 1859, no. 712.—COOPER and SUCKLEY, Rep. Pacific R. R. Surv., xii, pt. ii, 1860, 280 (Straits of Fuca, Washington; Farallon Islands).—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 308 (St. Michaels, etc., Alaska).—ORTON, Am. Nat., iv, 1871, 717 (original of Audubon's works in coll. Mus. Vassar College).—DALL, Proc. Calif. Ac. Sci., v, 1873, 34, 279 (Aleutian Islands).—SAUNDERS, Ibis, 1883, 348 (Bering Island).
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- [*Fratricula*] *cirrhatata* COUES, Key N. Am. Birds, 1872, 341.
- Phaleris cirrhata* HARTING, Proc. Zool. Soc. Lond., 1871, 121 (Bering Strait).
- Fratricula cirrata* VIEILLLOT, Nouv. Dict. d'Hist. Nat., xviii, 1817, 333.—REINHARDT, Ibis, 1861, 16 (Greenland).—COUES, Check List, 2d ed., 1882, no. 856.
- [*Fratricula*] *cirrata* COUES, Key N. Am. Birds, 2d ed., 1884, 804.
- Mormon cirrata* NAUMANN, Isis, 1821, 781, pl. 7, fig. 1.
- Alca cirratha* BODDAERT, Tabl. Pl. Enl., 1783, 47.
- Sagmatorrhina lathamii* BONAPARTE, Proc. Zool. Soc. Lond., 1851, 202, pl. 44 ("Northwestern Arctic Regions of America;" coll. Brit. Mus.;=young).—COUES, Proc. Ac. Nat. Sci. Phila., 1868, 31, fig. 3 (monogr.).—ELLIOTT, Illustr. New and Unfig. N. Am. Birds, pt. 14-15, 1869 (vol. ii), pl. 66 and text.
- Sagmatorrhina labradoria* (not *Alca labradoria* Gmelin) CASSIN, in Baird, Rep. Pacific R. R. Surv., ix, 1858, 904, part.—BAIRD, Cat. N. Am. Birds, 1859, no. 716, part.—DALL and BANNISTER, Trans. Chicago Ac. Sci., i, 1869, 309 (Kadiak Island).
- Fratricula carinata* VIGORS, Zool. Journ., iv, 1839, 358 (n. w. America).

ADDENDA.

Page 148.—In the Key to the Genera of Scolopacidae the genus *Totanus* was accidentally overlooked. This omission may be corrected by substituting for the matter following “k” and “kk” the following:

- k. Bill stouter, its depth at base equal to more than one-eighth the length of exposed culmen, the latter nearly as long as tarsus; rump white or mostly white.
- l. Larger (wing 176–191 mm.); bill distinctly upturned distally; tarsus nearly twice as long as middle toe without claw; no white on secondaries. Glottis (p. 322).
- ll. Smaller (wing 144–160 mm.); bill not upturned distally; tarsus much less than twice (but little more than one and a half times) as long as middle toe without claw; secondaries white. Totanus (p. 342).
- kk. Bill more slender, its depth at base equal to not more than one-eighth the length of exposed culmen, the latter much shorter than tarsus; rump not white or mostly white. Neoglottis (p. 329).

In the selection of generic names, the author has not followed certain authorities in adopting the following. It may be that *Catharacta* and *Rubicola* should be adopted in lieu of *Megalestris* and *Philohela*, respectively. *Chlidonias* I consider ineligible on account of the manner of publication; the remainder are names given by an anonymous author and therefore, according to my view, not eligible.

Catharacta BRÜNNICH, Orn. Bor., 1764, 32. (Type, as designated by Coues, 1863, *C. skua* Brünnich.)

Chlidonias RAFINESQUE, Kentucky Gazette [newspaper], n. s., i, no. 8, Feb. 21, 1822, 3. (Type, by monotypy, *C. melanops* Rafinesque = *Sterna surinamensis* Gmelin.)

Rubicola “Vieill [ot]” JAMESON, ed. Wilson’s Am. Orn., iii, 1831, 98. (Type, by monotypy, *Scolopax minor* Gmelin.)

Philomachus [ANONYMOUS] Allg. Lit.-Zeitung, 1804, ii, no. 168, June 8, 1804, col. 542. (Type, by monotypy, *Tringa pugnax* Linnaeus.)

Canutus [ANONYMOUS] Allg. Lit.-Zeitung, 1804, ii, no. 168, June 8, 1804, col. 542. (Type, by monotypy and tautonymy, “Knot der Englischen Naturforscher” = *Tringa canutus* Linnaeus.)

Calidris [ANONYMOUS] Allg. Lit.-Zeitung, 1804, ii, no. 168, June 8, 1804, col. 542. (Type, by tautonymy, *Tringa calidris*, no authority cited, but probably the species so named in Bechstein’s Taschenbuch, p. 308.)

In the preparation of the synonymies of this volume it was not possible to verify references taken, “at second hand,” from a considerable number of works cited, of which the following constitute the principal ones. Consequently, orthographies may not always be

as cited, the matter of brackets, indicating abbreviated generic names, being involved in the same uncertainty:

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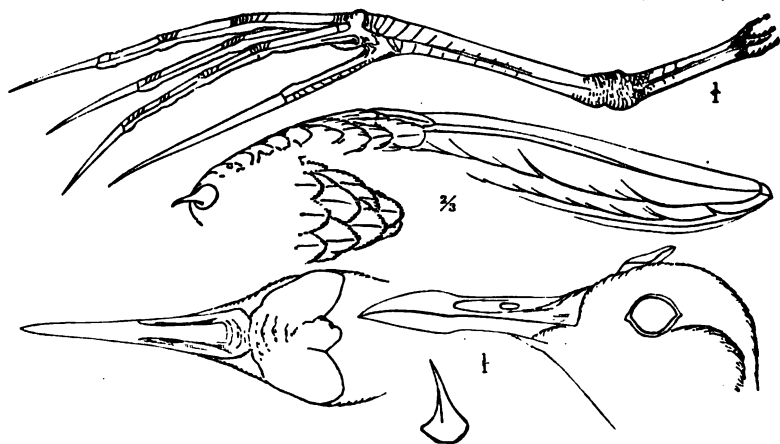
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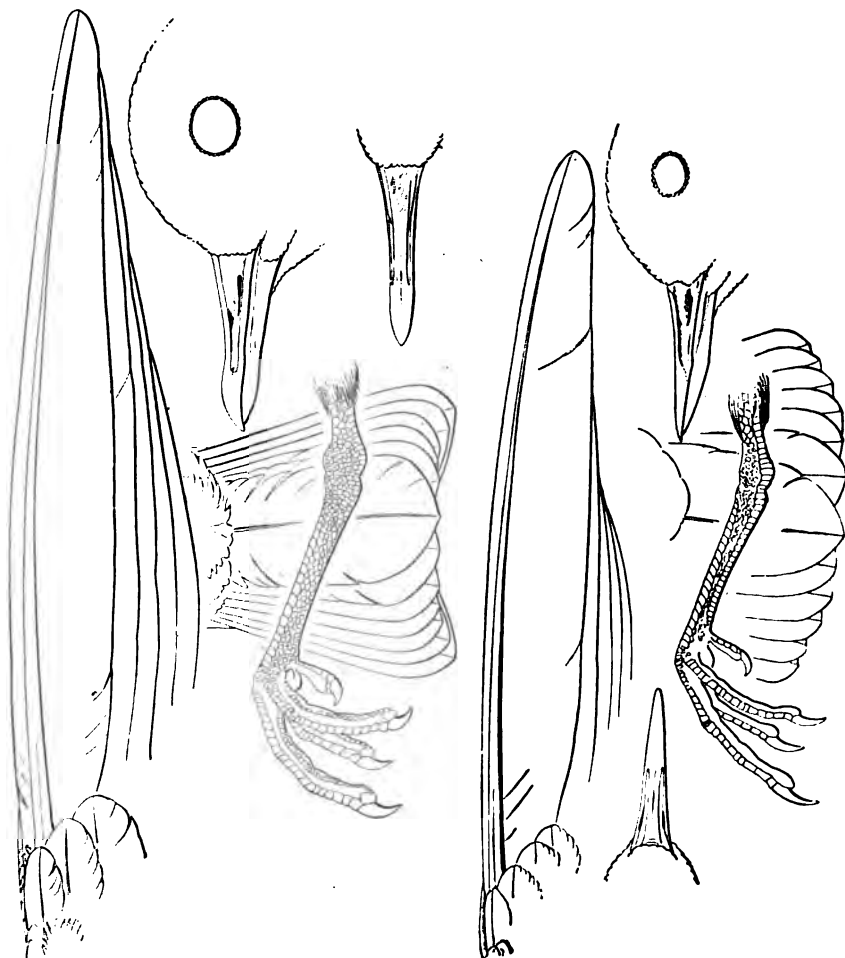
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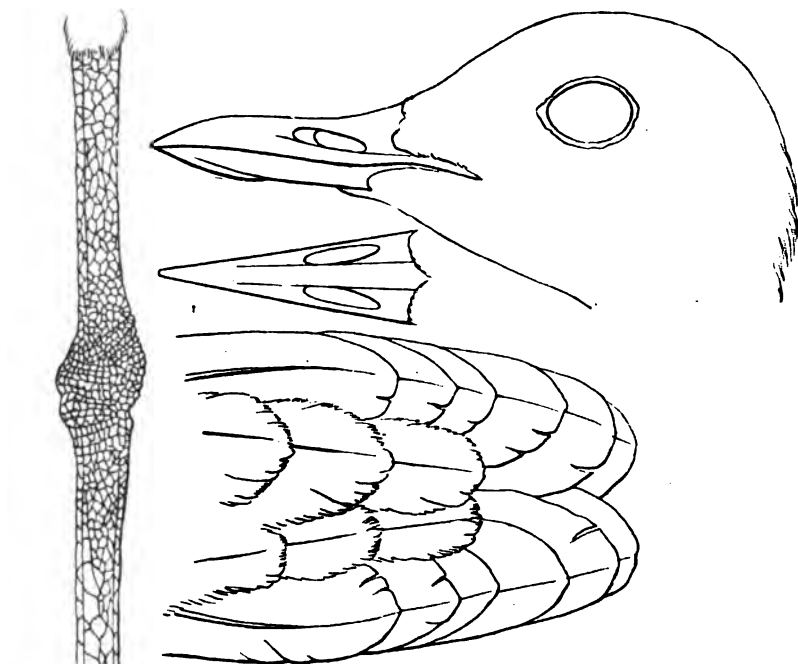


1. *JACANA spinosa*.

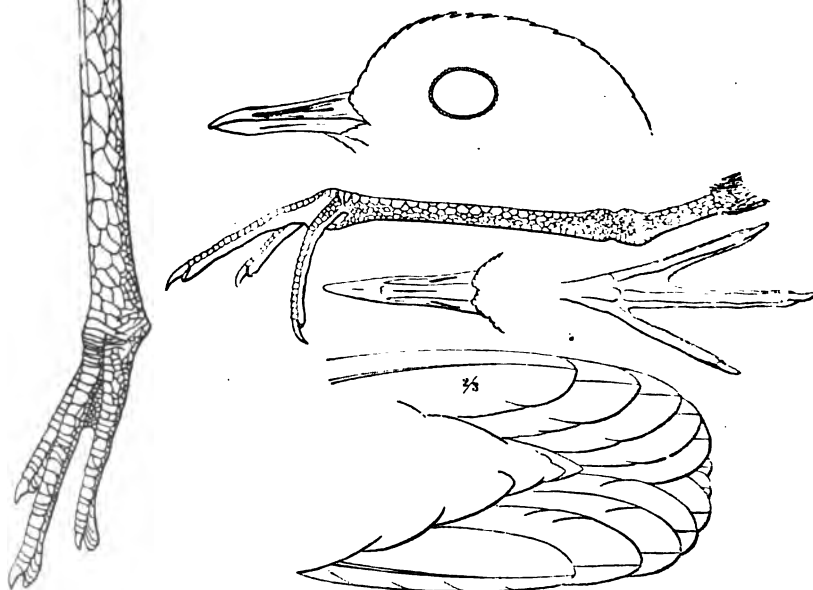


2. *APHRIZA virgata*.

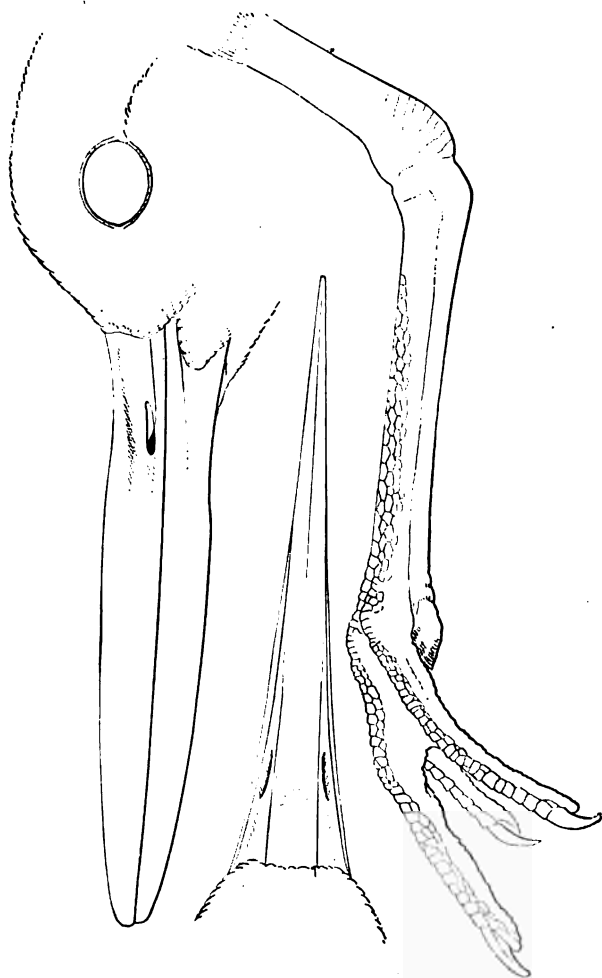
3. *ARENARIA interpres*.



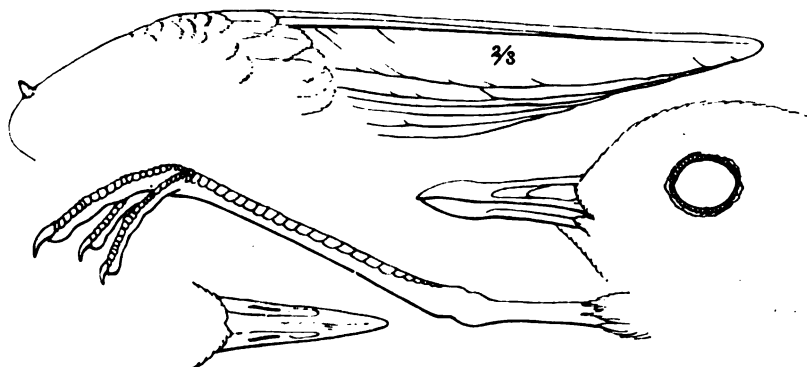
1. *OEDICNERNUS bistratus*.



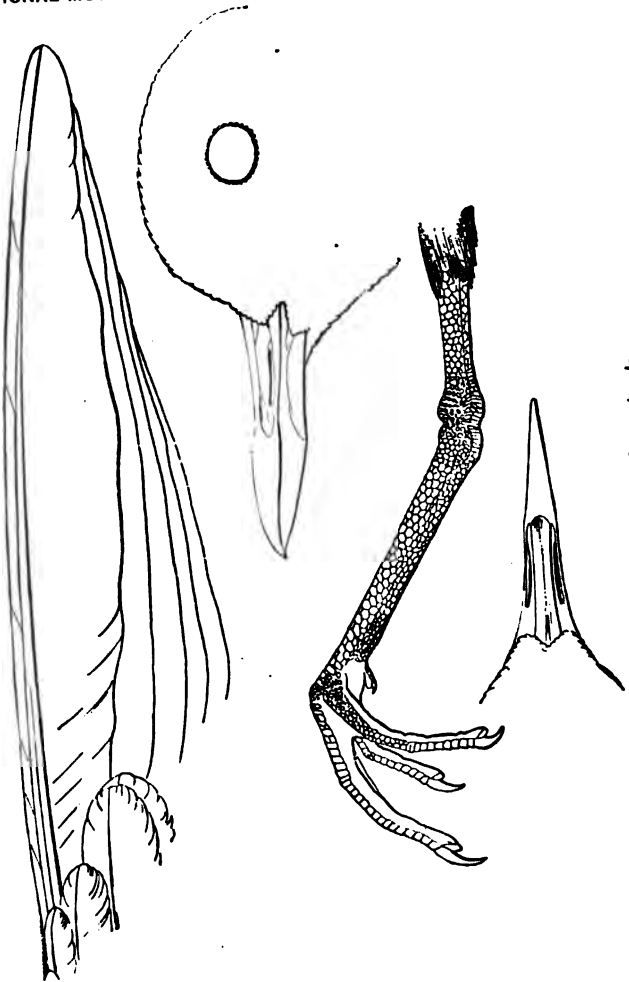
2. *OXYECHUS vociferus*.



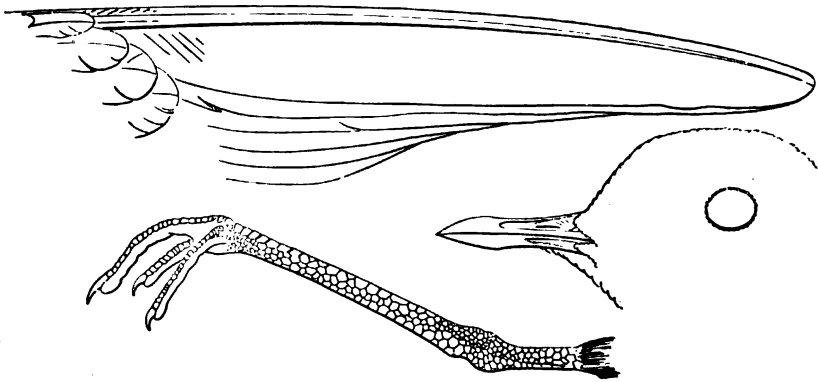
1. *H. EMATOPUS palliatus.*



2. *HOPLOXYPTERUS cayanus.*



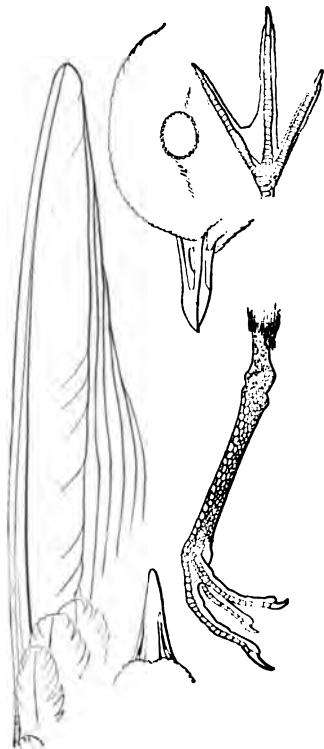
1. *SQUATAROLA squatarola*.



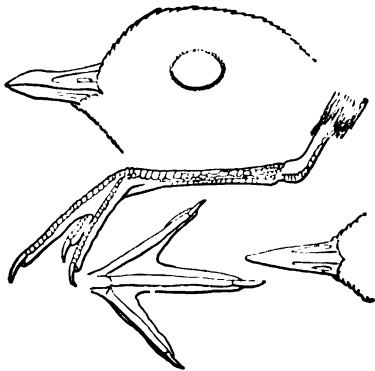
2. *PODASOCYS montanus*.



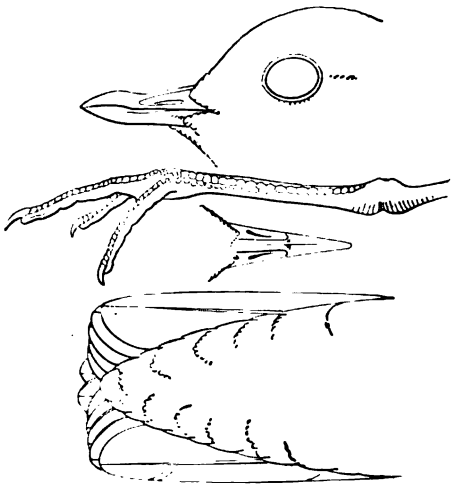
1. *PLUVIALIS dominicus*.



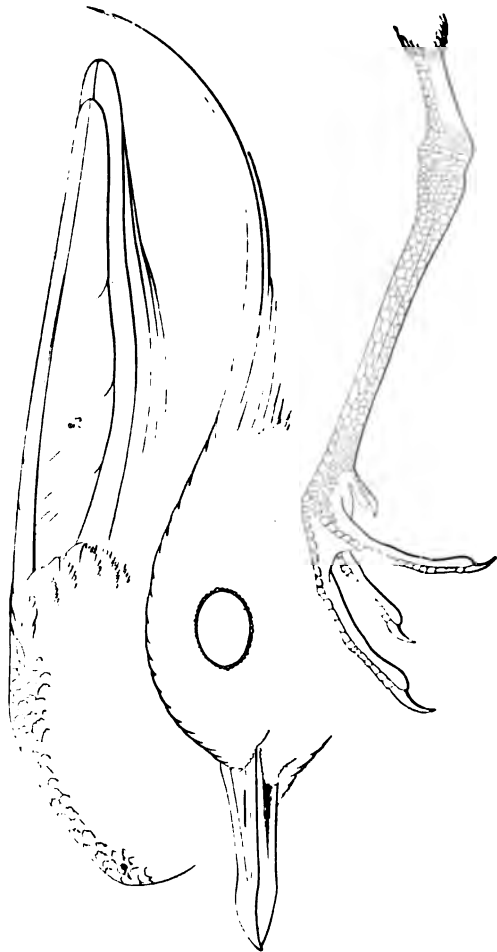
2. *CHARADRIUS histicula*.



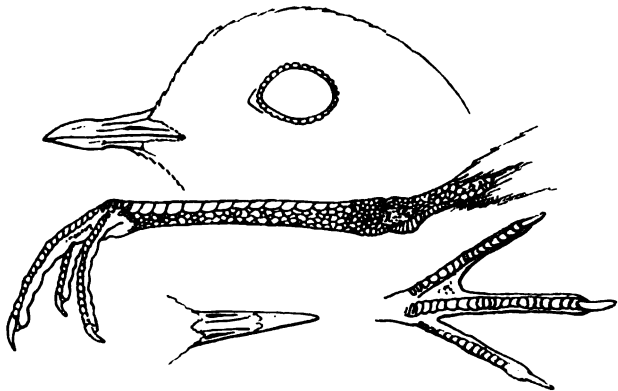
3. *CHARADRIUS semipalmatus*.



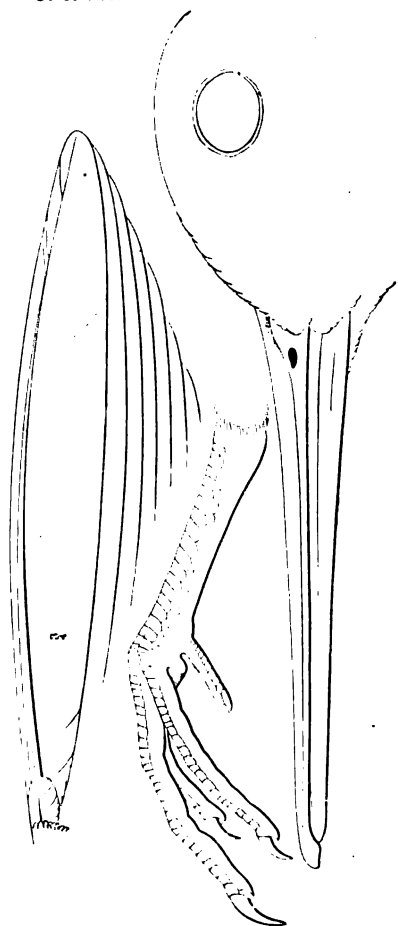
4. *CHARADRIUS mongolus*.



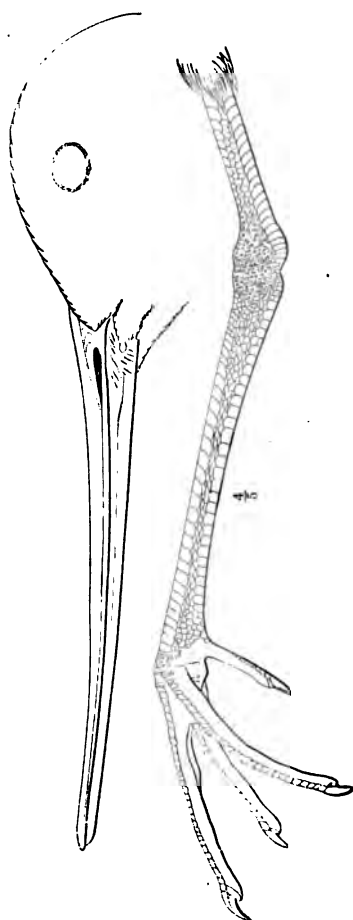
1. *VANELLUS vanellus*.



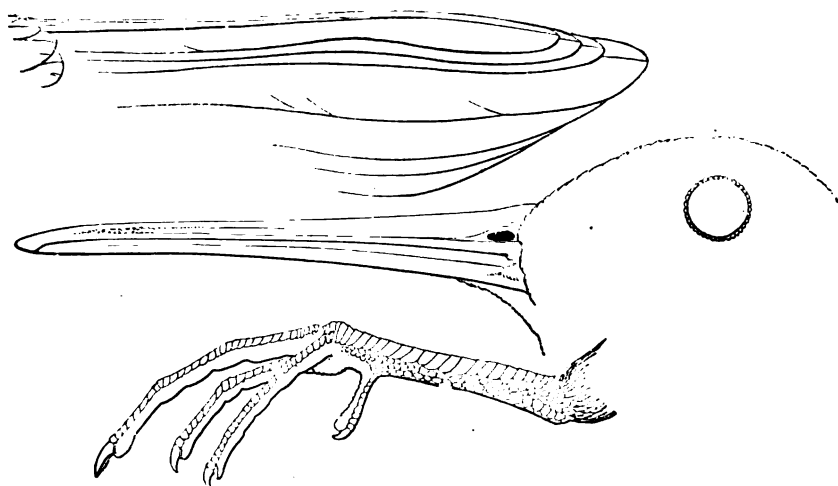
2. *EUDROMIAS morinellus*.



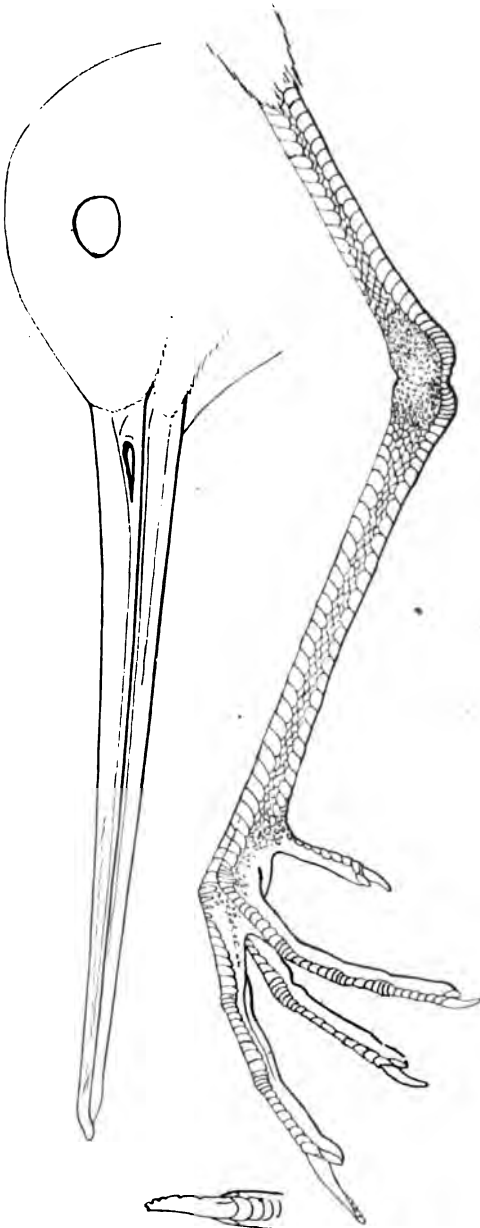
1. *SCOLOPAX rusticola.*



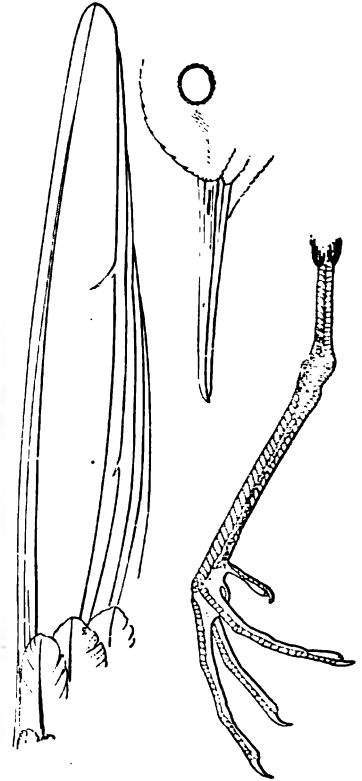
2. *VETOLA fedoa.*



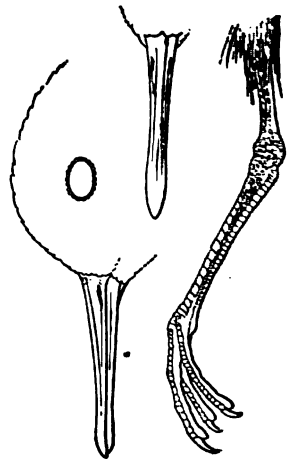
3. *PHILOHELA minor.*



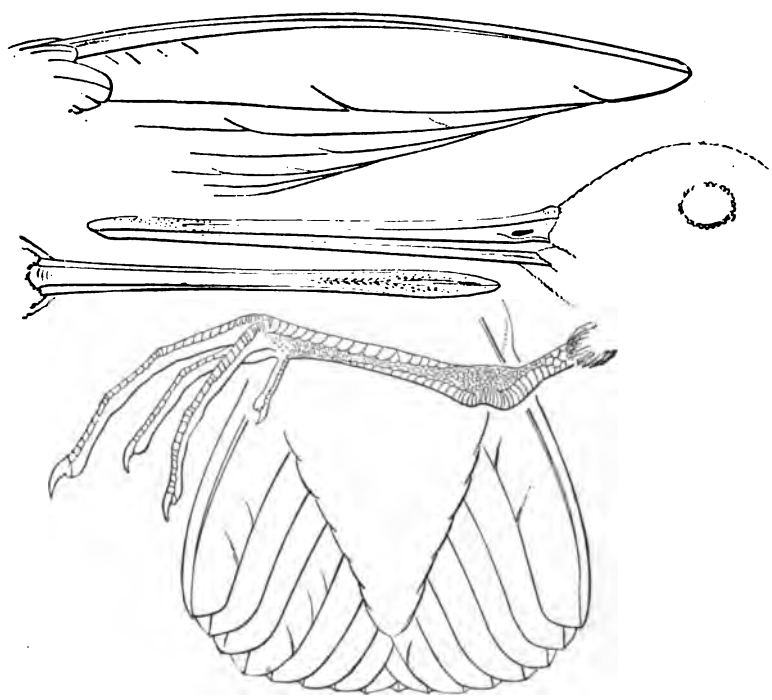
1. *LIMOSA limosa*.



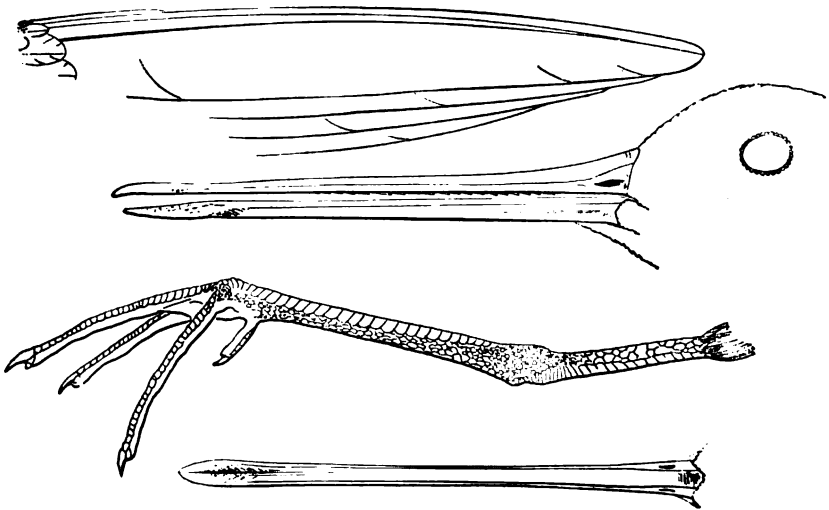
2. *TRINGA solitaria*



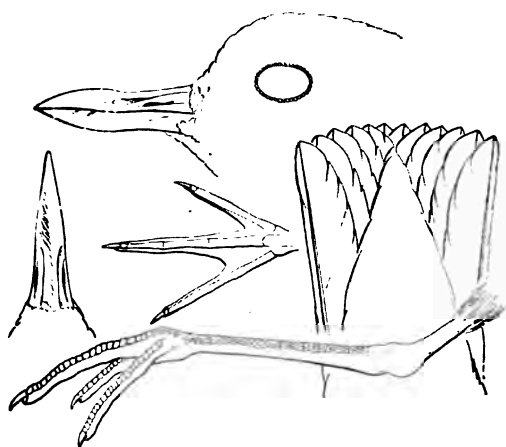
3. *CALIDRIS alba*.



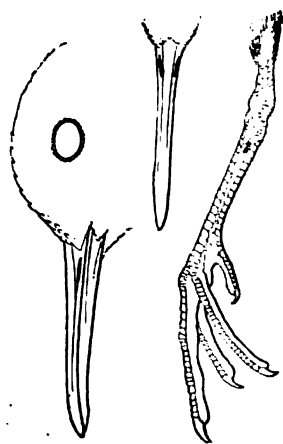
1. *GALLINAGO delicata*.



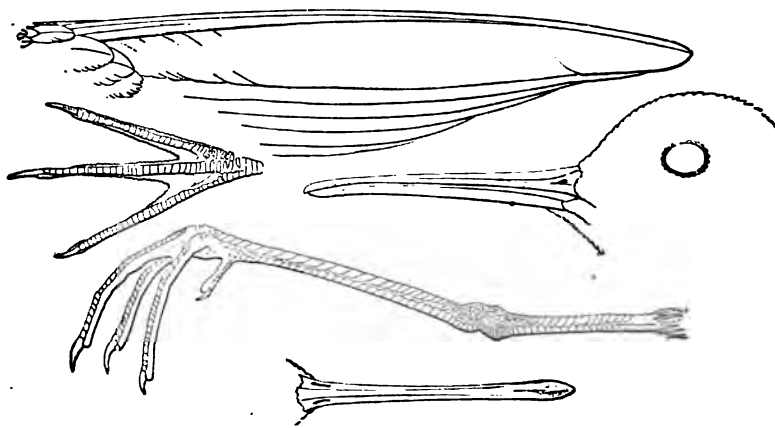
2. *LIMNODROMUS griseus*.



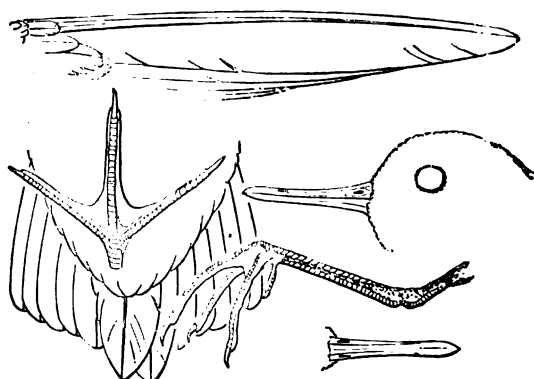
1. *PAGOLLA wilsoni*.



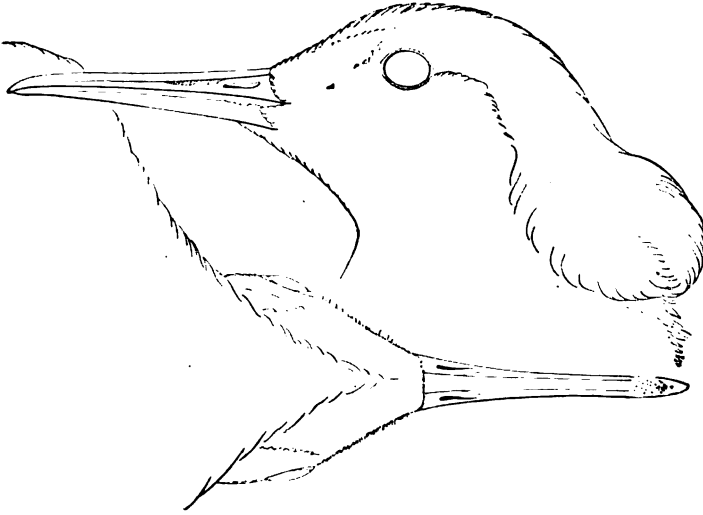
2. *ACTITIS macularia*.



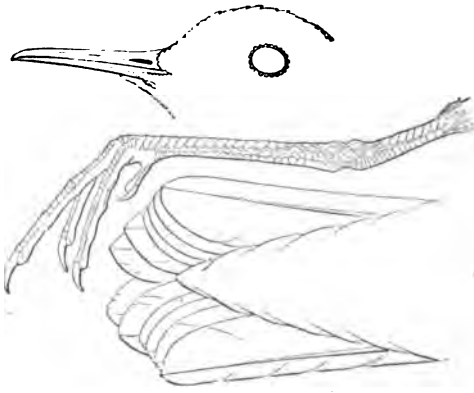
3. *MICROPALAMA himantopus*.



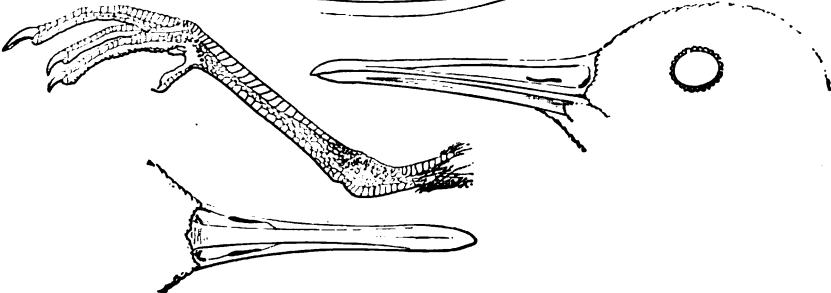
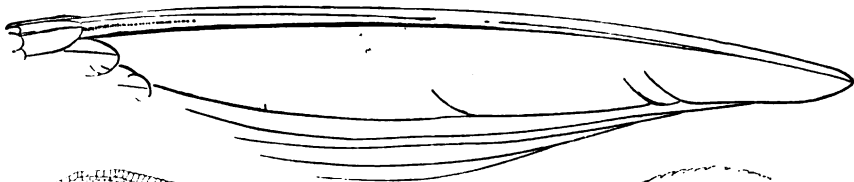
4. *EREUNETES pusillus*.



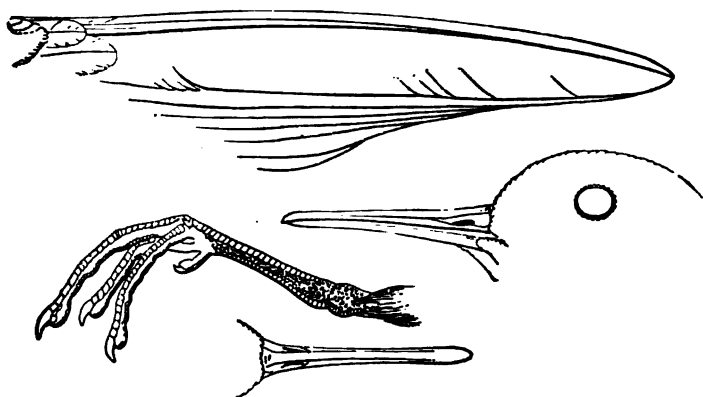
1. *MACHETES pugnax*.



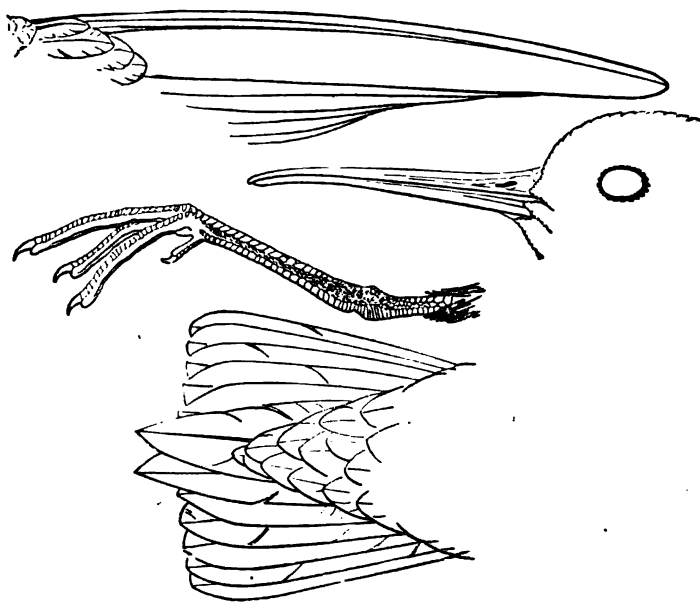
2. *TRYNGITES subruficollis*.



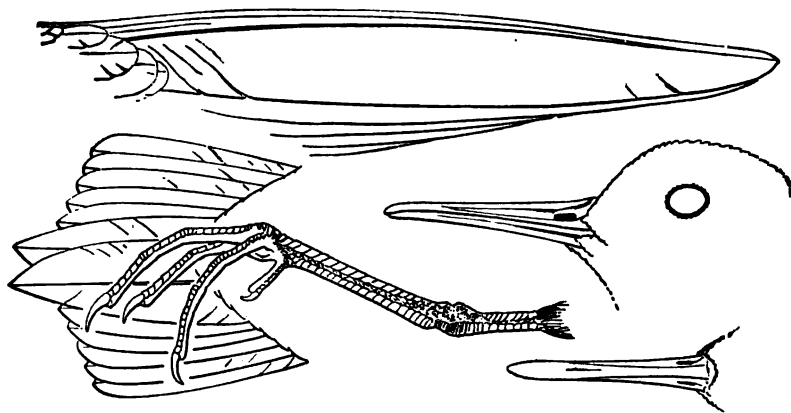
3. *CANUTUS canutus*



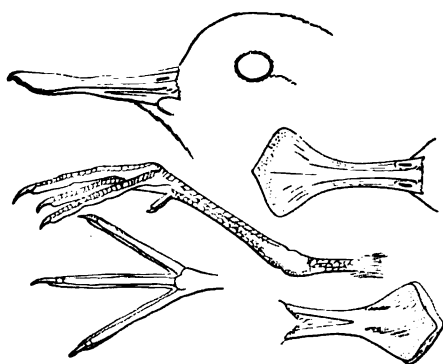
1. *ARQUATELLA maritima*.



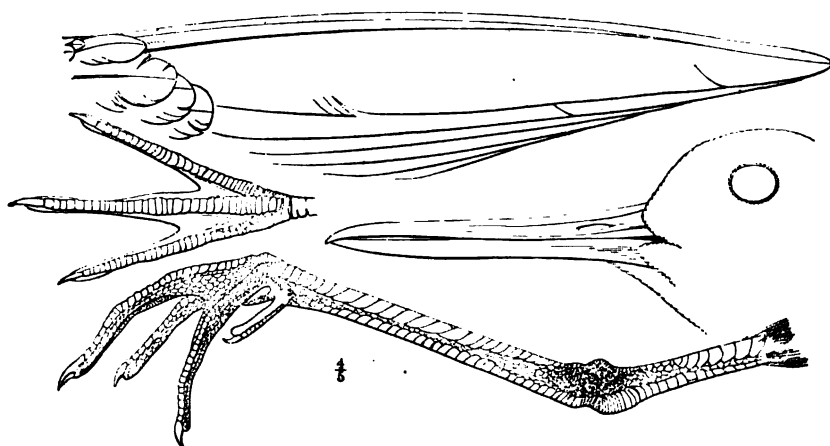
2. *PELIDNA sakhalina*.



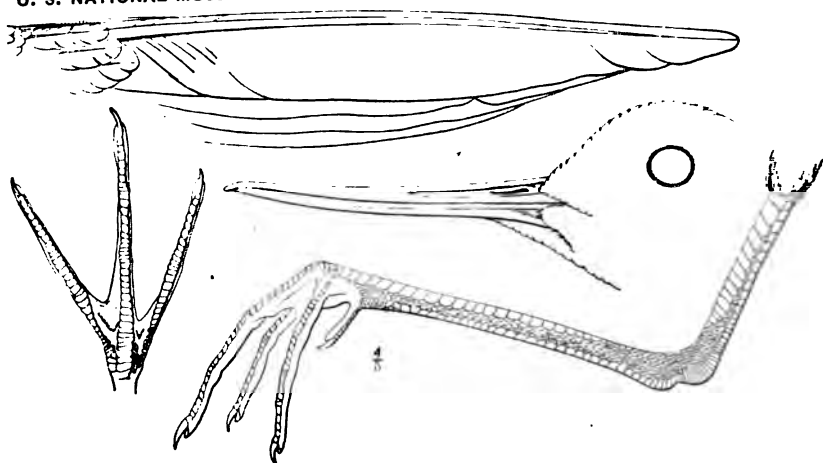
1. *PISOBIA maculata*.



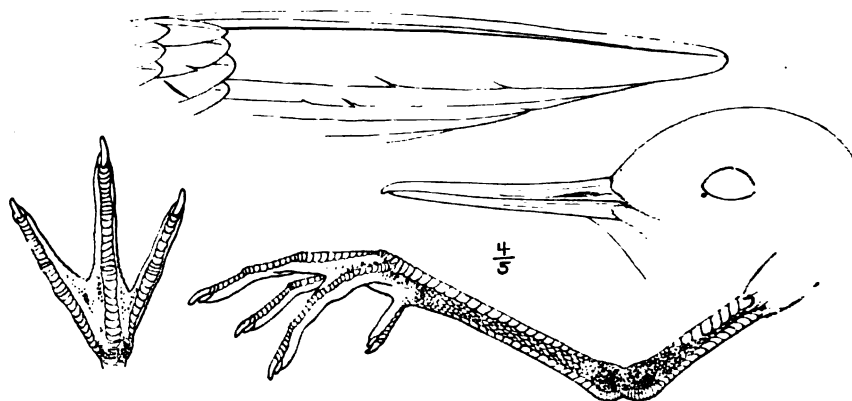
2. *EURYNORHYNCHUS pygmaeus*.



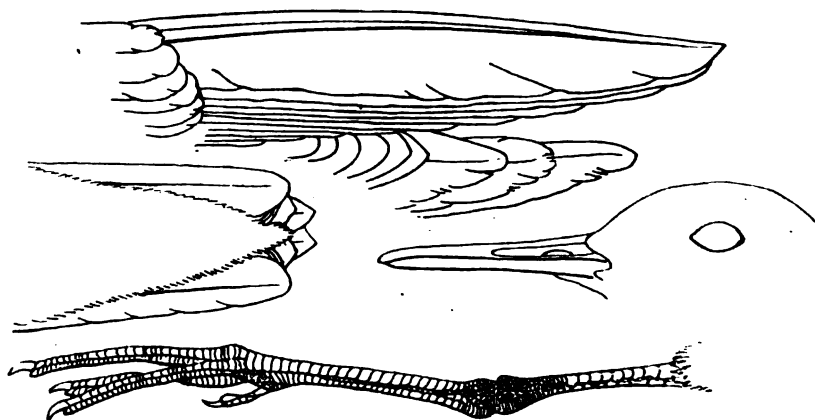
3. *CATOPTROPHORUS semipalmatus*.



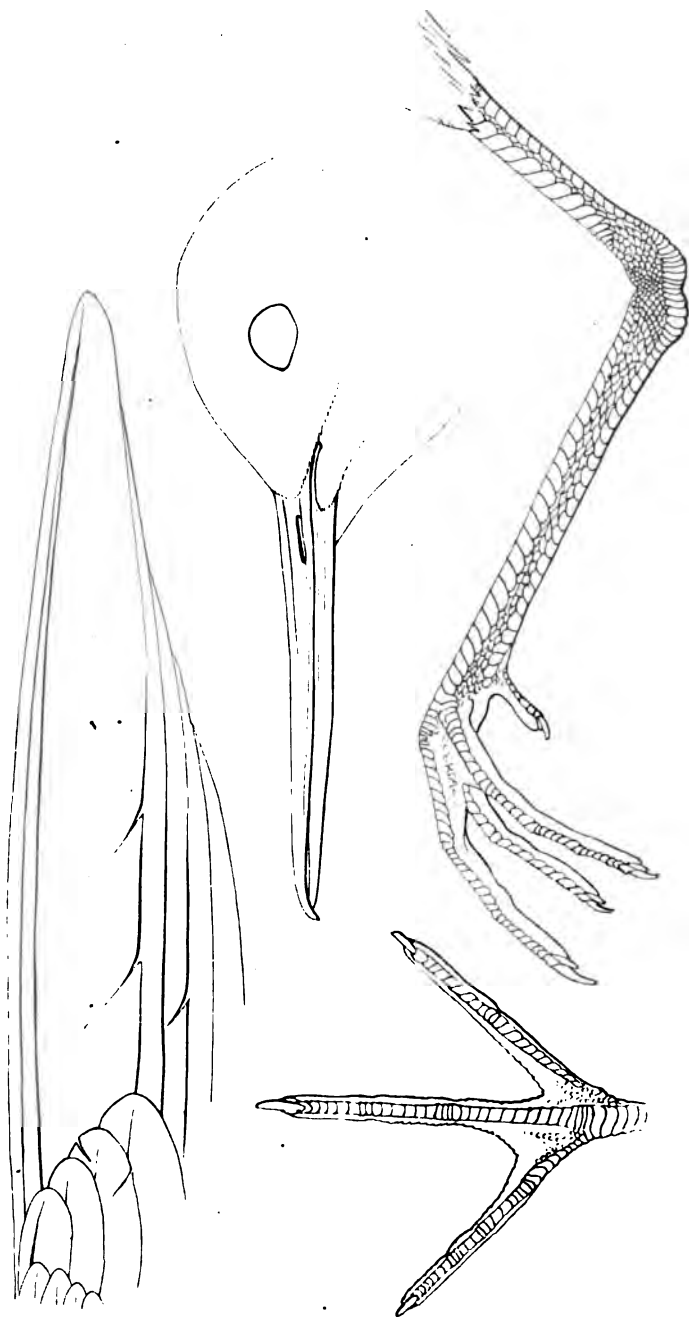
1. *GLOTTIS nebularia*.



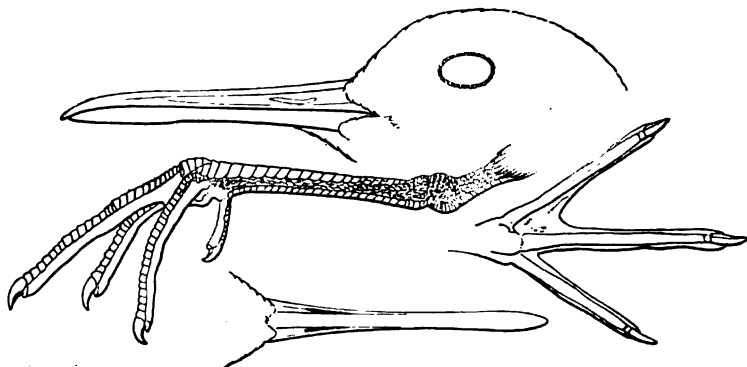
2. *TOTANUS totanus*.



3. *RHYACOPHILUS glareola*.



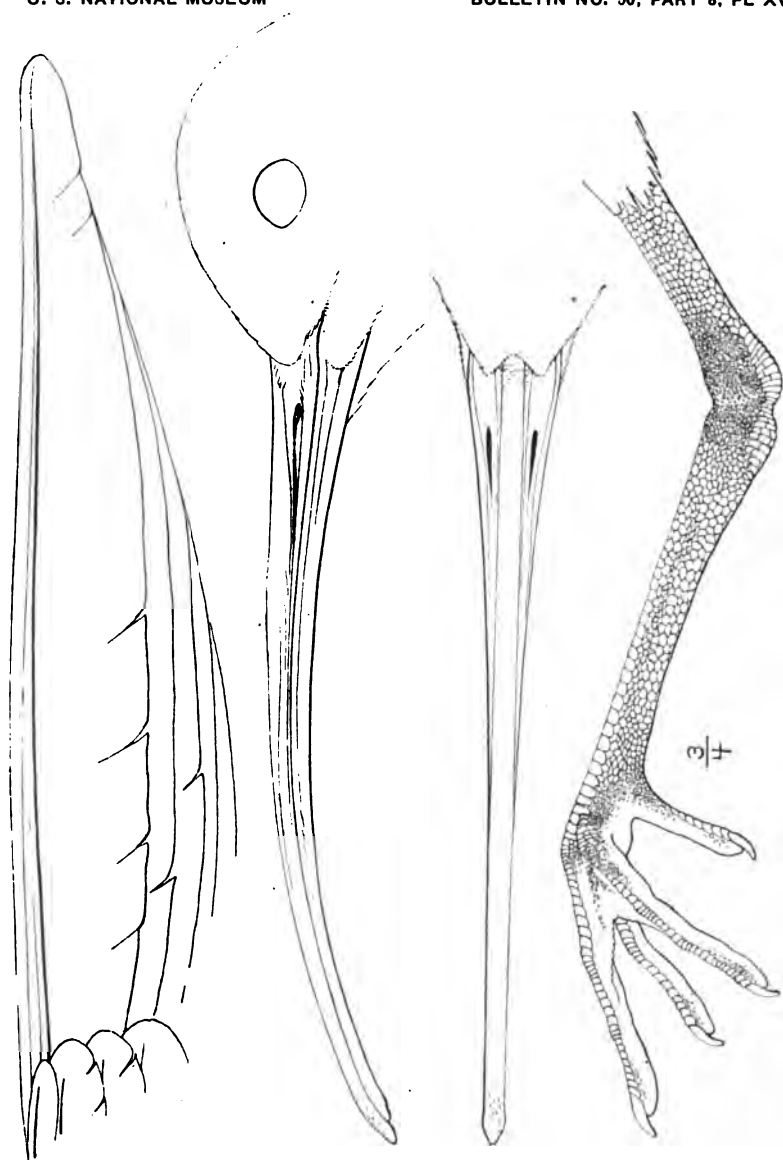
NEOGLOTTIS melanoleuca.



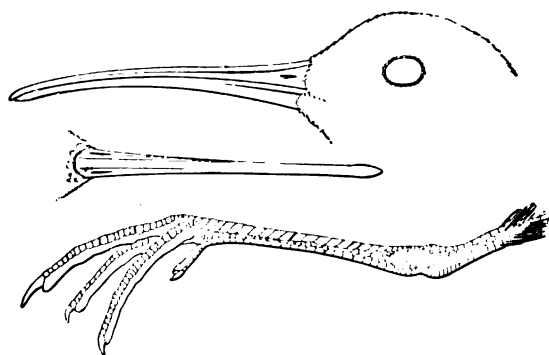
1. *HETEROSCELUS incanus*.



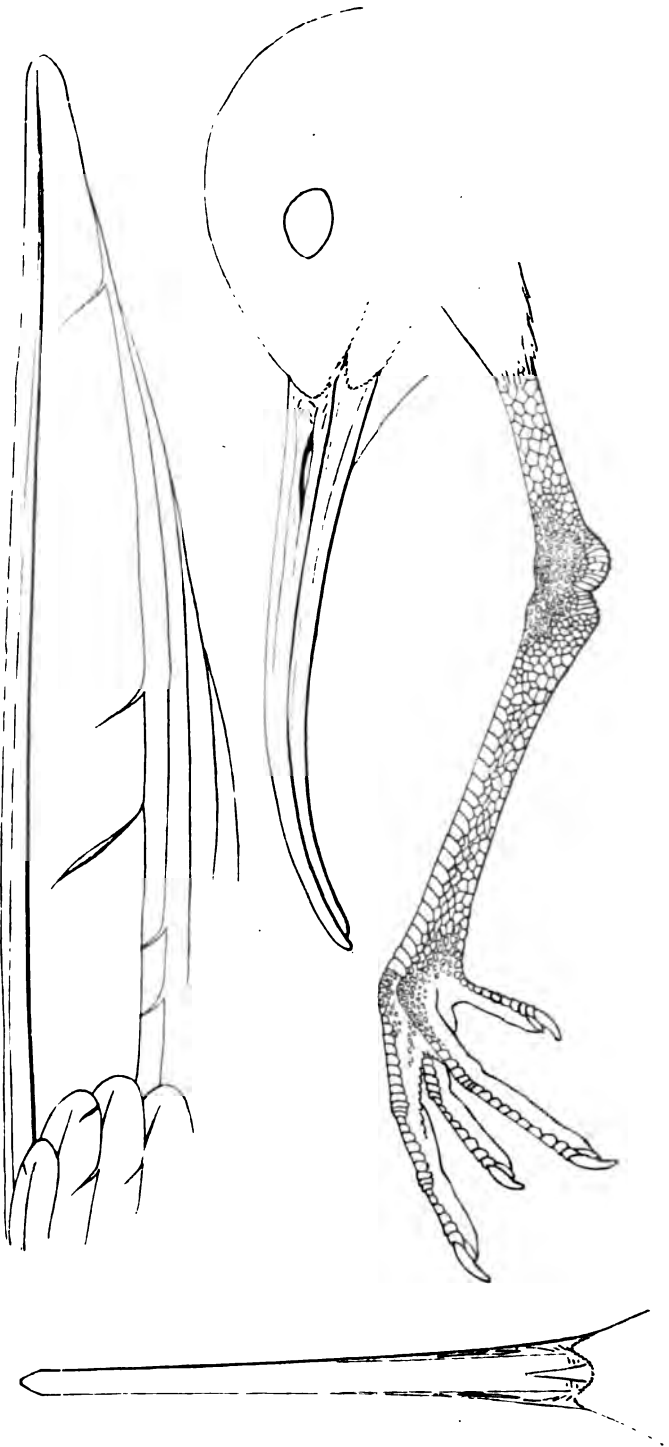
2. *BARTRAMIA longicauda*.



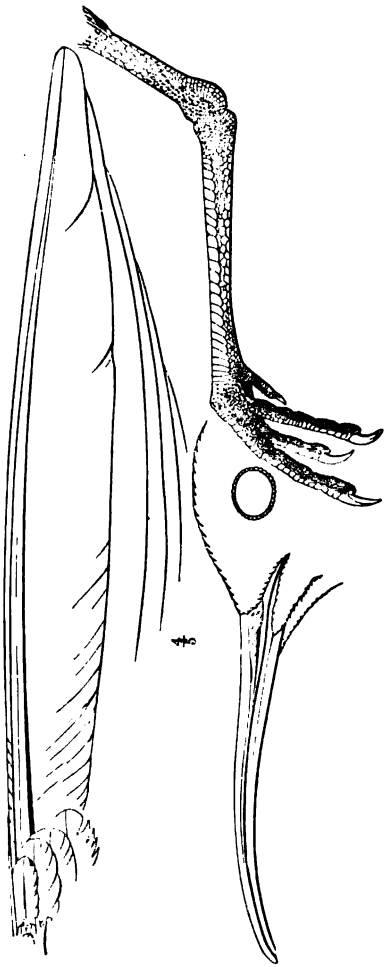
1. *NUMENIUS arquatus*.



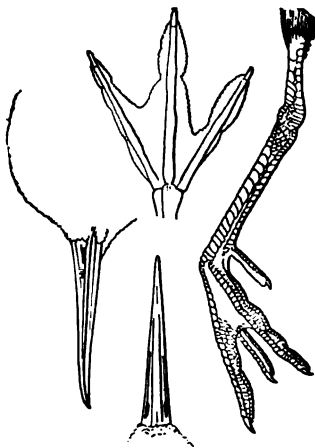
2. *EROLIA ferruginea*.



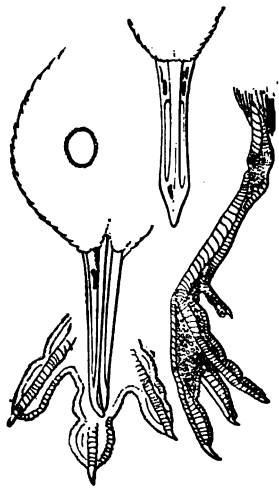
PHÆOPUS phaeopus.



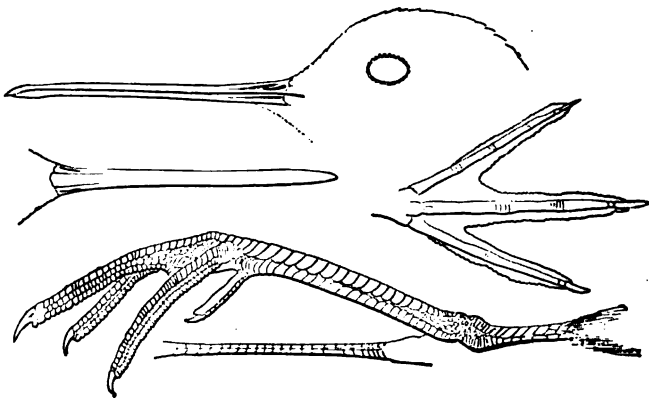
1. MESOSCOLOPAX borealis.



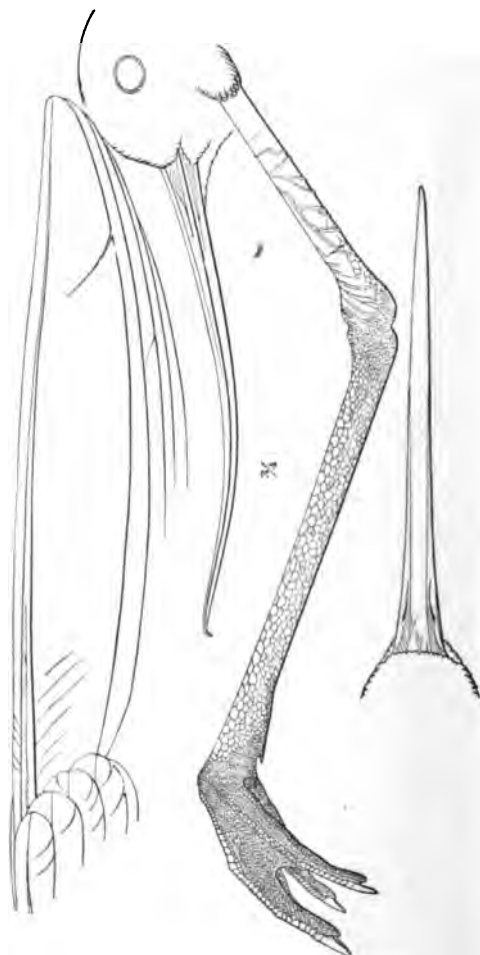
3. LOBIPES lobatus.



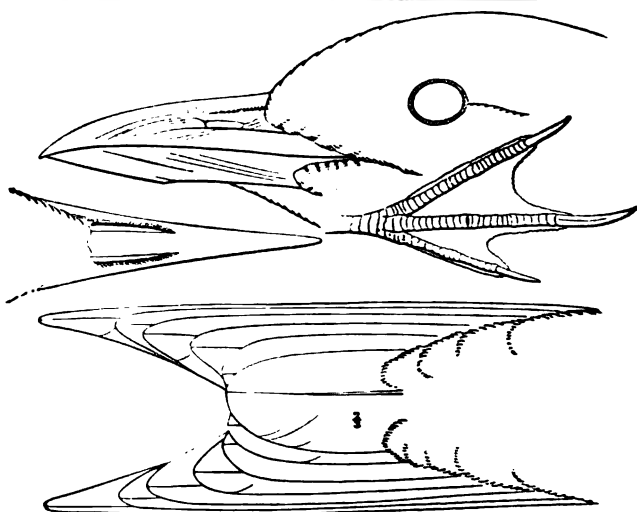
2. PHALAROPUS fulicarius.



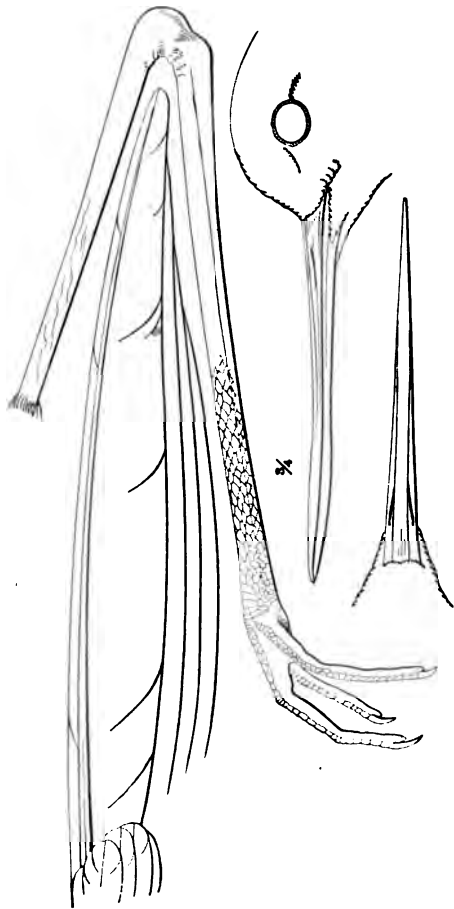
4. STEGANOPUS tricolor.



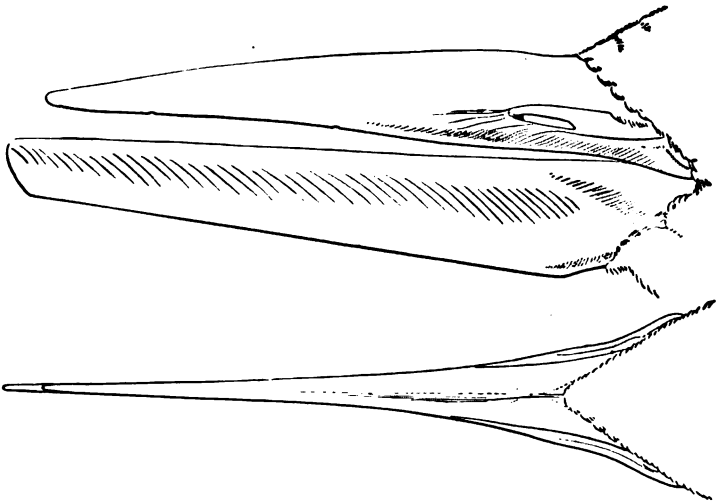
1. *RECURVIROSTRA americana*.



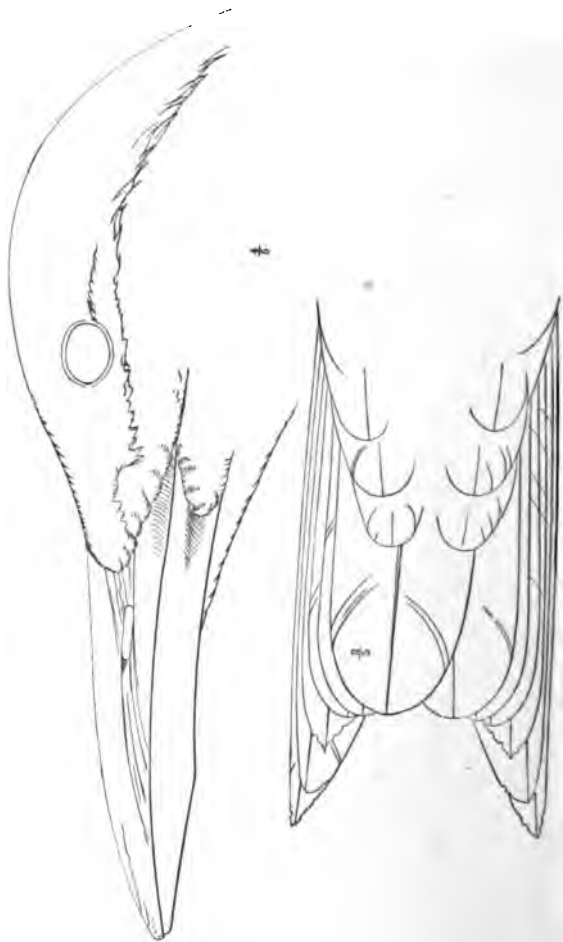
2. *GELOCHELIDON nilotica*.



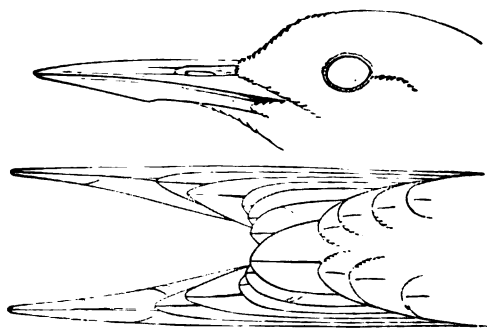
1. HIMANTOPUS mexicanus.



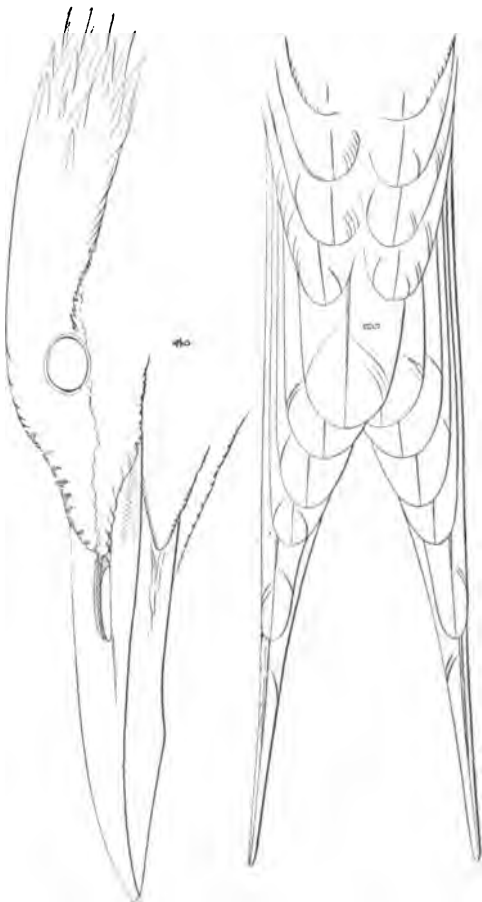
2. RYNCHOPS nigra.



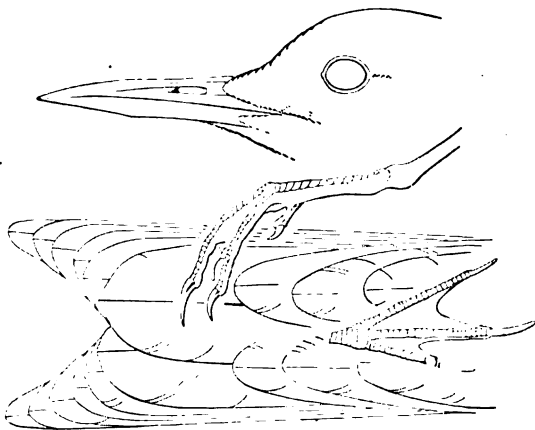
1. *HYDROPROGNE caspia*.



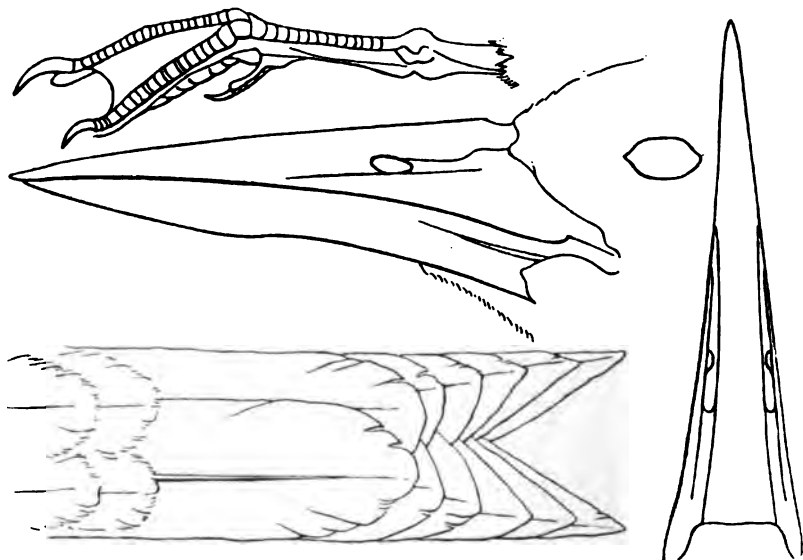
2. *STURNELLA antillarum*.



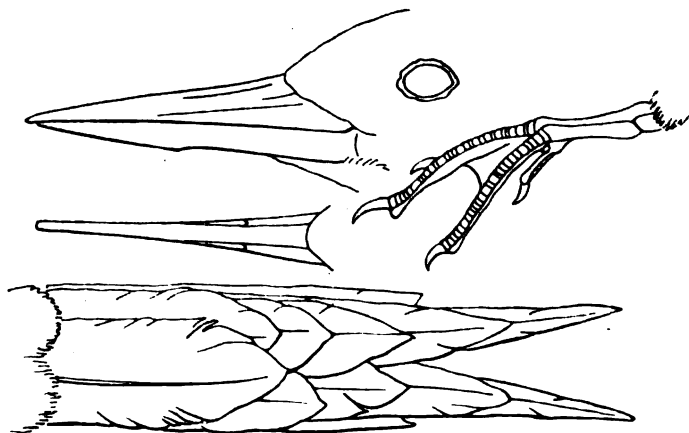
1. *THALASSEUS maximus*.



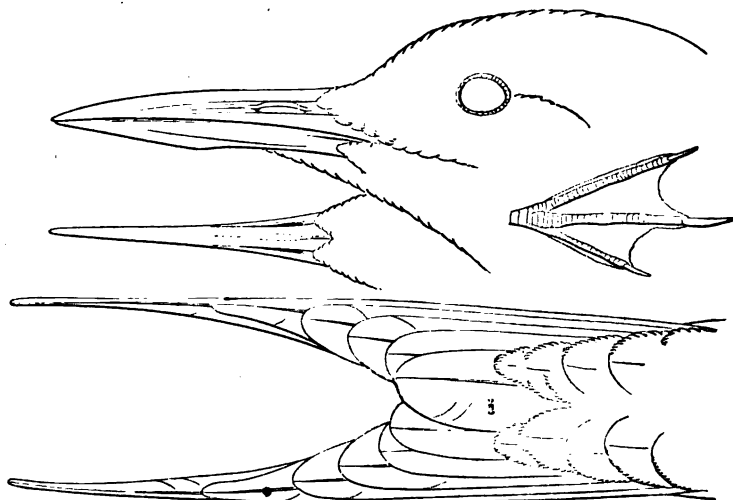
2. *HYDROCHELIDON surinamensis*.



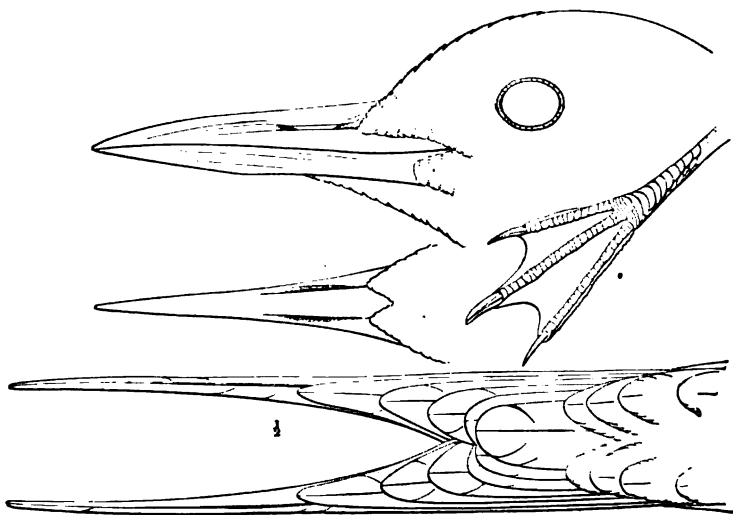
1. *PHÆTUSA chloripoda*.



2. *GYGIS alba*.



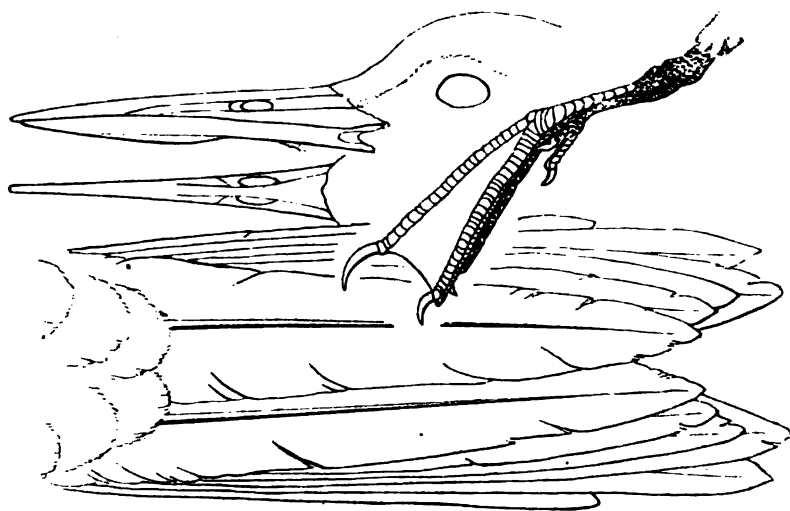
1. STERNA hirundo.



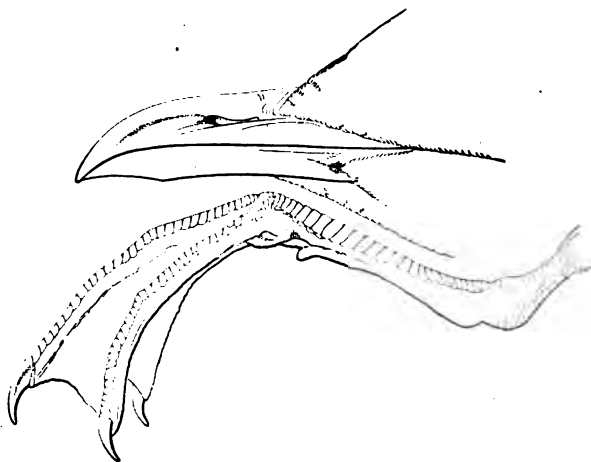
2. Sterna (ONYCHOPRION) fuscata.



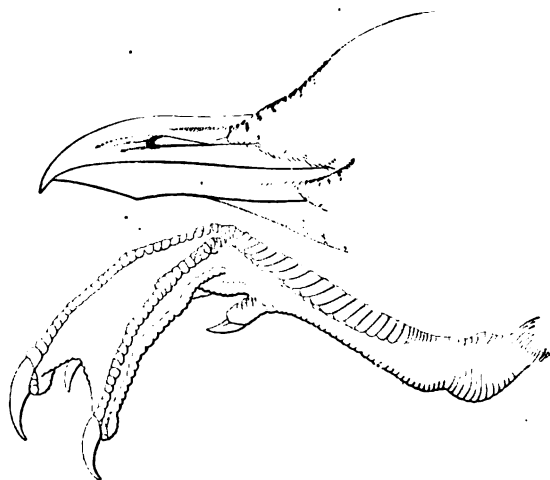
1. *ANOUS stolidus*.



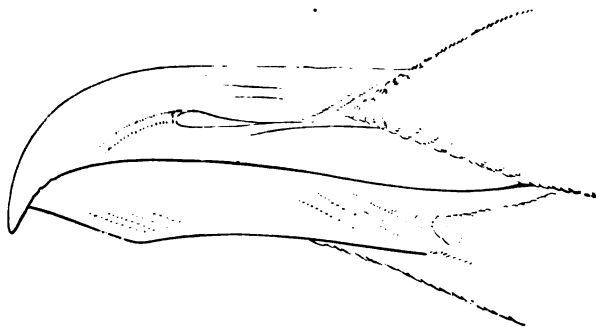
2. *MEGALOPTERUS atlanticus*.



1. *RISSA tridactyla*.



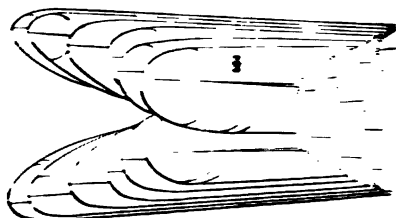
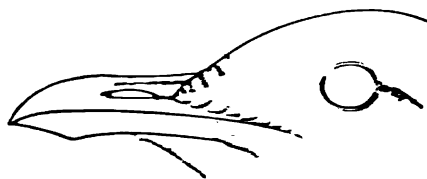
2. *PAGOPHILA alba*.



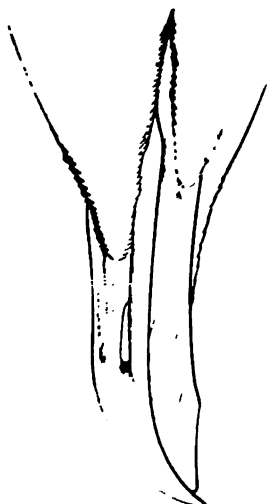
3 *LARUS marinus*.



2. *HYDROCOLOEUS minutus*.



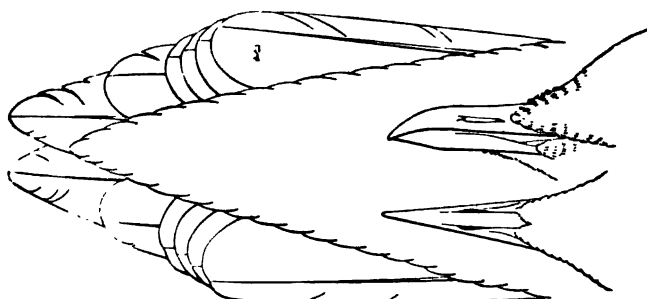
3. *XEMA umbini*.



1. *BLASIPUS heermanni*.



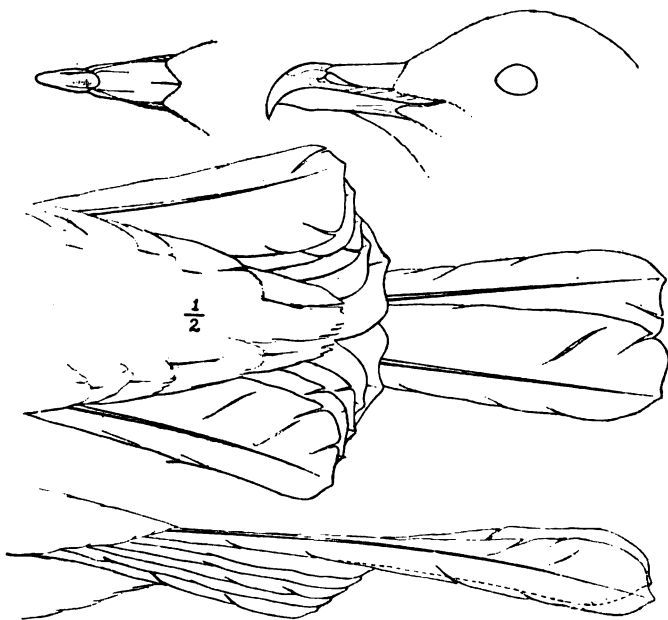
4. *CREAGRUS furcatus*.



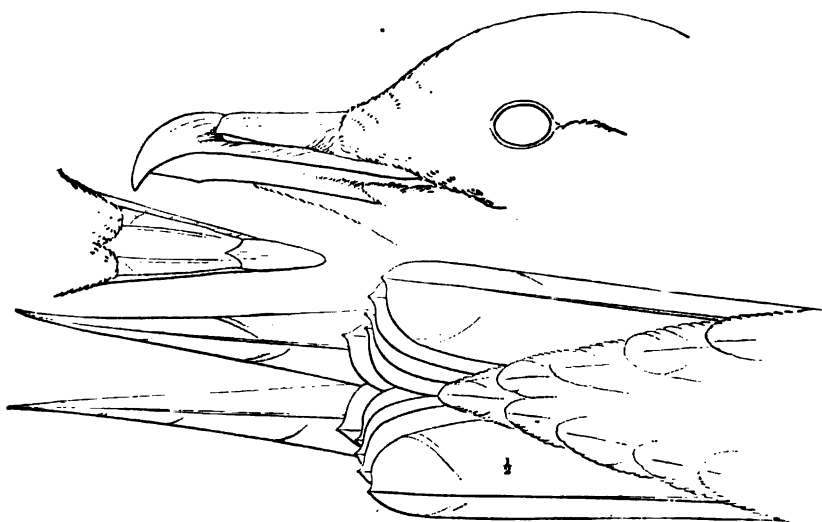
5. *RHODOSTETHIA rosea*.



1. MEGALESTRIS skua.



2. COPROTHERES pomarinus.



1. STERCORARIUS parasiticus.



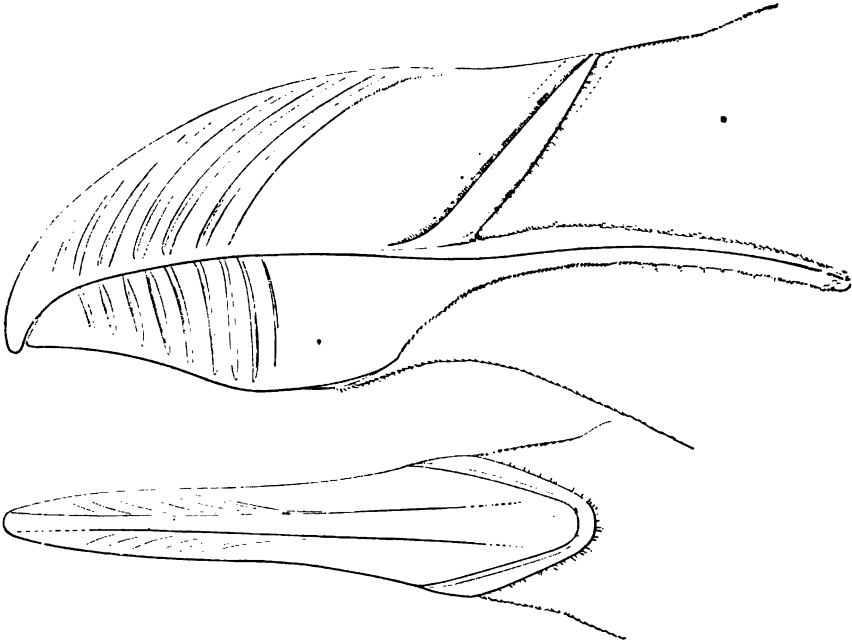
2. URIA troile.



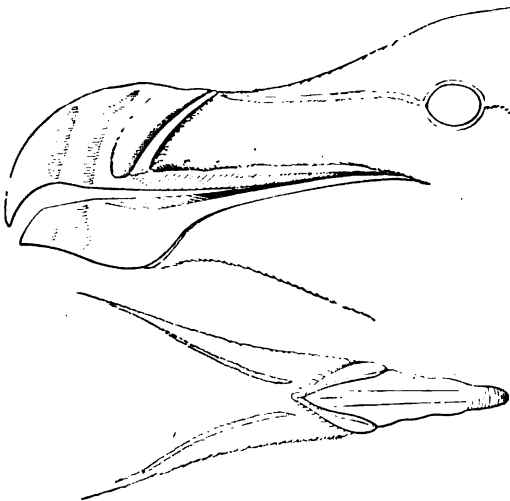
3, PLAUTUS alle.



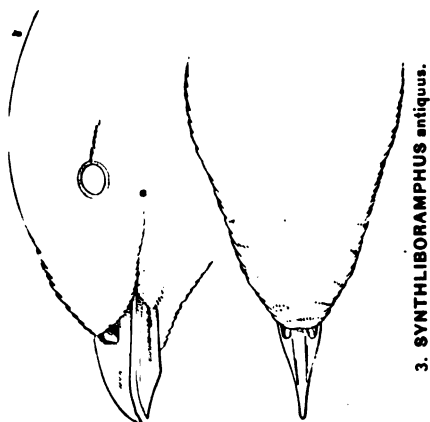
4, CEPPHUS columba.



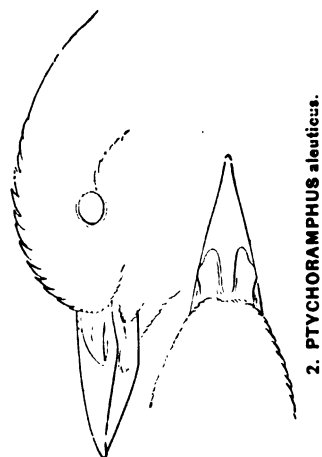
1. *PINGUINUS impennis*.



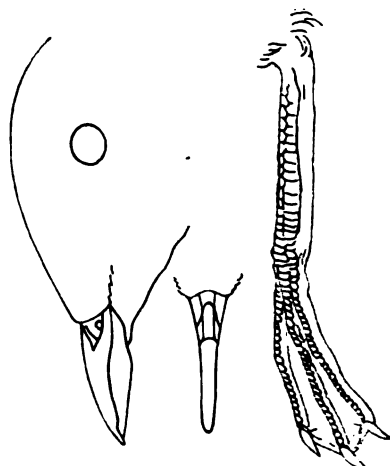
2. *ALCA torda*.



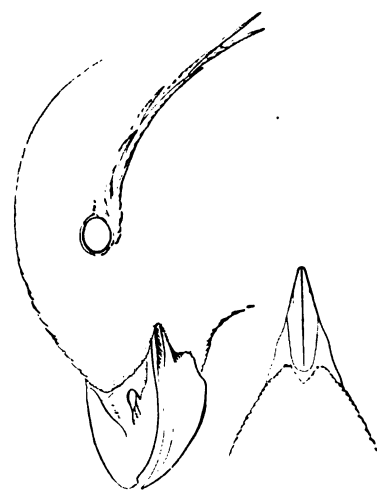
3. *SYNTHLIBORAMPHUS antiquus*.



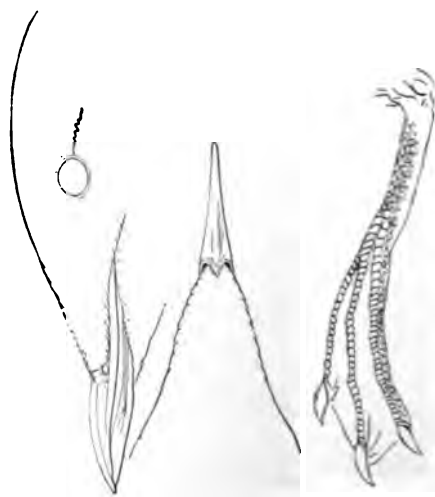
2. *PTYCHORAMPHUS aleuticus*.



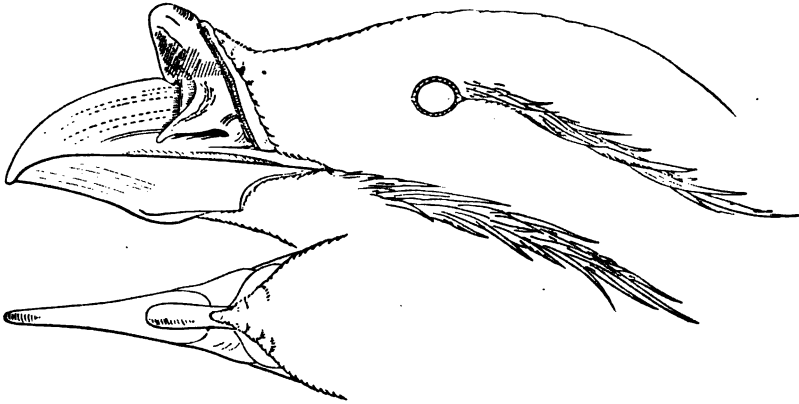
5. *ENDOMYCHURA hypoleuca*.



1. *PHALERIS psittacula*.



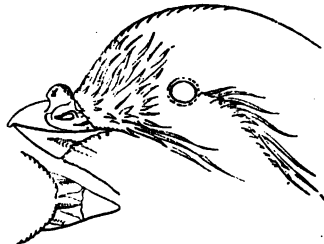
4. *BRACHYRAMPHUS marmoratus*.



1. *CERORHINCA monocerata*.



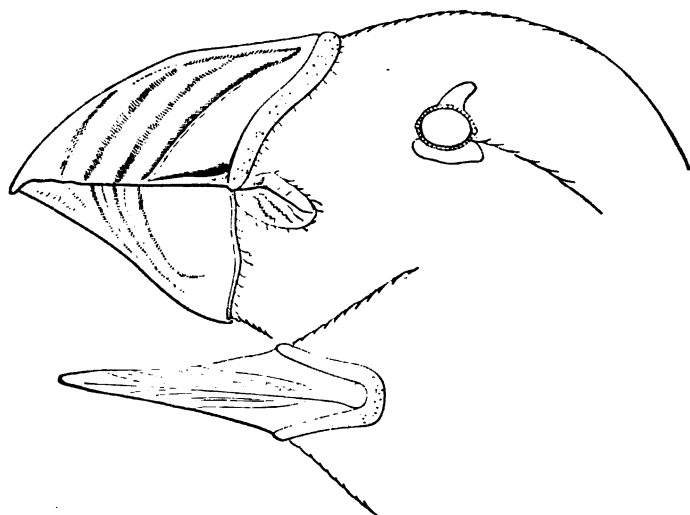
2. *ÆTHIA cristatella*.



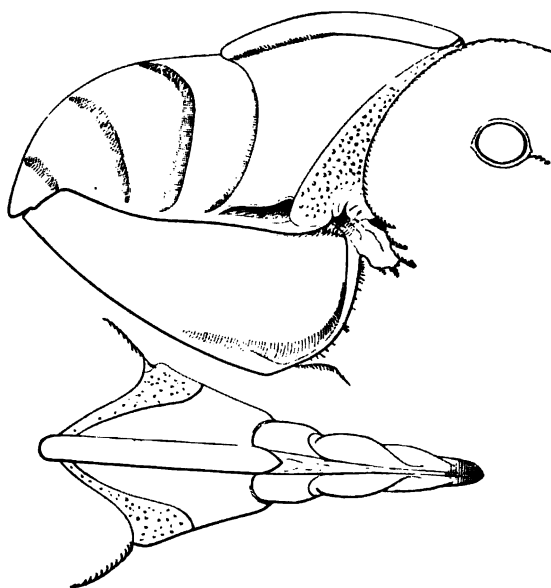
3. *CICERONIA pusilla*.



4. *ALCELLA pygmaea*.



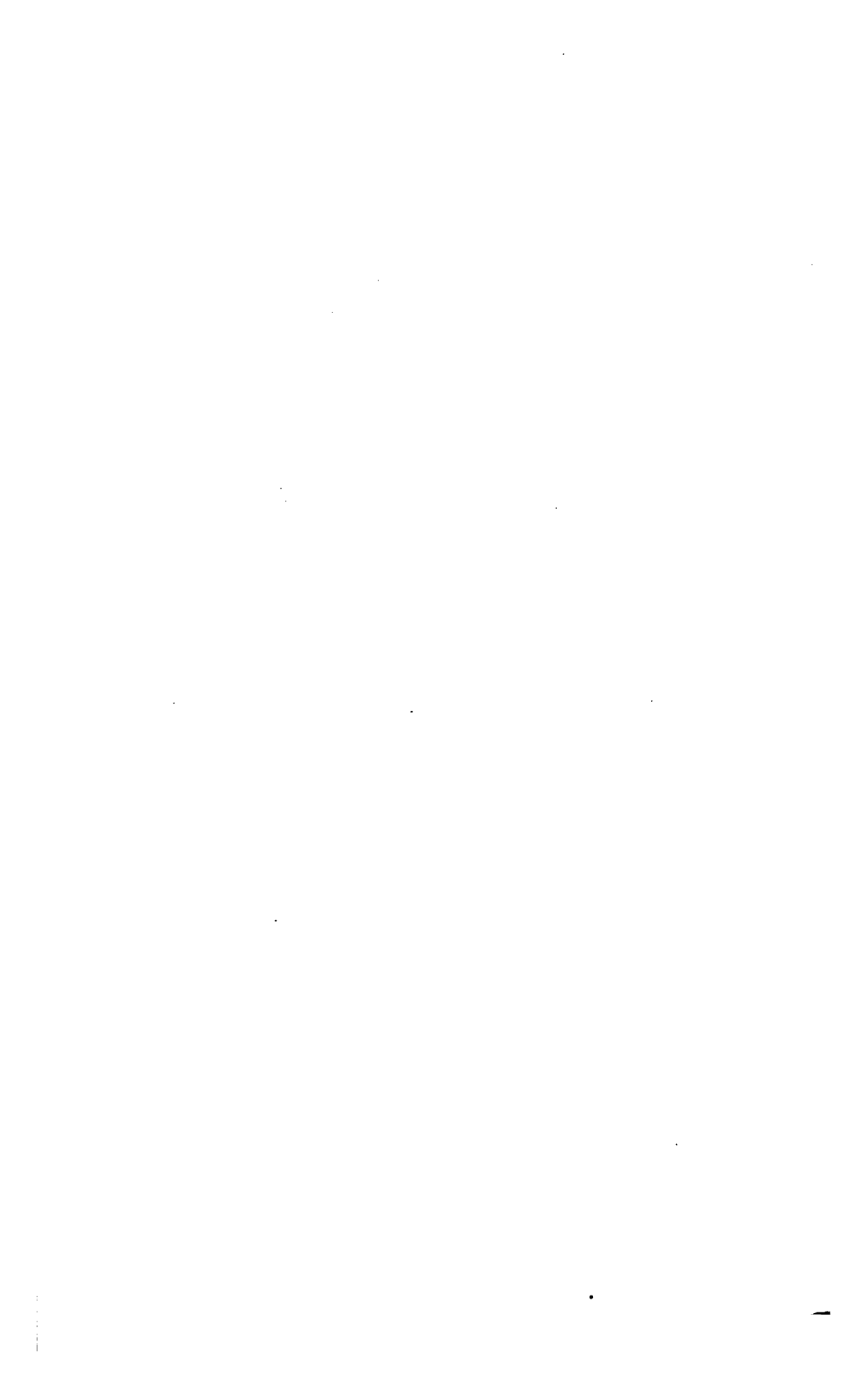
1. *FRATERCULA arctica*.



2. *LUNDA cirrhata*.









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